FIVE YEAR REVIEW REPORT

THIRD FIVE YEAR REVIEW REPORT

FOR

WAUCONDA SAND & GRAVEL LANDFILL

WAUCONDA

LAKE COUNTY, ILLINOIS

AUGUST 2007

PREPARED BY:

U.S. EPA
REGION 5

Approved by:

Richard C Karl

Richard C. Karl, Director
Superfund Division

Date:

8-21-07

Wauconda Sand & Gravel Landfill
Third Five Year Review Report

Table of Contents

Tables

Attachments

List of Acronyms and Abbreviations

ARARs	Applicable or Relevant and Appropriate Requirements
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
FS	Feasibility Study
ICs	Institutional Controls
Illinois EPA	Illinois Environmental Protection Agency
MCL	Maximum Contaminant Level
NCP	National Contingency Plan
NPL	National Priorities List
PPB	Parts Per Billion
PPM	Parts Per Million
PRPs	Potentially Responsible Parties
RA	Remedial Action
RI	Remedial Investigation
ROD	Record of Decision
Site	Wauconda Sand & Gravel Landfill Superfund Site
SVOCs	Semi-Volatile Organic Compounds
TCE	Trichloroethene
U.S. EPA	United States Environmental Protection Agency
UU/UE	Unlimited Use and Unrestricted Exposure
VOCs	Volatile Organic Compounds
WTG	Wauconda Task Group

Executive Summary

The remedy for the Site in Wauconda, Illinois includes a leachate control system, gas control management system, landfill cap upgrades, groundwater monitoring, and institutional controls. The Site achieved construction completion with the signing of the Preliminary Close Out Report on August 22, 1996. The trigger for this five year review was the signing of the second five year review on August 23, 2002.

The remedy at the Site included operable unit # 1 and operable unit # 2. Operable unit #1 consisted primarily of the installation of a leachate collection system to prevent contaminated leachate from reaching Mutton Creek, the installation of a perimeter fence to prevent access to the Site, and landfill cap upgrades. Operable unit # 1 is operating as intended by the RODs and is considered to be protective of human health and the environment in the short-term. The major components of operable unit # 2 included the following: monitoring well network upgrade, groundwater monitoring, landfill gas management, leachate monitoring, surface water monitoring in Mutton Creek, upgrade of the existing cap, restricted use of on-Site land and groundwater, and the continued maintenance of the interim remedial measures. Operable unit # 2 is operating as intended by the RODs and is considered to be protective of human health and the environment in the short-term. Both operable unit # 1 and operable unit # 2 are expected to be protective of human health and the environment in the long-term upon attainment of all cleanup standards. In the interim, exposure pathways that could result in unacceptable risks are being controlled by preventing exposure to, or the ingestion of, contaminated groundwater. All threats at the Site have been addressed through the installation and operation of the leachate collection system, including leachate monitoring, landfill cap upgrades, groundwater monitoring and landfill gas management. Further, the effectiveness of the remedy has been enhanced by the WTG connecting approximately 400 residential properties to the Village of Wauconda municipal water system. Even though the land use restrictions required by the ROD have not been implemented at the Site, the existing Site use is consistent with the objectives set forth in the ROD and the implemented remedial actions at the Site are functioning as intended. Long term protectiveness requires implementation, maintenance, and compliance with land use restrictions that prohibit interference with the hazardous waste cap and soil in the limited industrial land use area and groundwater use restrictions until the cleanup standards are met. Sampling and analysis of groundwater monitoring wells for the presence of VOCs and metals will be continued at the Site. Current groundwater monitoring data indicate that the remedy is functioning as required to achieve groundwater goals.

SITE IDENTIFICATION

Site name ***(from WasteLAN)***: Wauconda Sand & Gravel Landfill

EPA ID ***(from WasteLAN)***: ILD047019732

Region: 5	**State:** Illinois	**City/County:** Lake

SITE STATUS

NPL status: ☒ Final ☐ Deleted ☐ Other (specify)

Remediation status (choose all that apply): ☐Under Construction ☒Operating ☐Complete

Multiple OUs ? ☒ YES ☐ NO	**Construction completion date:** 08/22/1996

Has site been put into reuse? ☐YES ☒NO

REVIEW STATUS

Lead agency: ☒ EPA State ☐ Tribe ☐ Other Federal Agency

Author name: Lolita Hill

Author title: Remedial Project Manager	**Author affiliation:** U.S. EPA

Review period: 01/08/2007 to Signature Date of this five year review

Date(s) of site inspection: 05/15/2007

Type of review:

☒Post-SARA ☐ Pre-SARA ☐ NPL-Removal only
☐Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead
☐Regional Discretion

Review number: ☐ 1 (first) ☐ 2 (second) ☒ 3 (third) ☐ Other (specify)

Triggering action:

☐Actual RA Onsite Construction at OU # ☐ Actual RA Start at OU#____
☐Construction Completion ☒ Previous Five year Review Report
☐Other (specify)

Triggering action date ***(from WasteLAN)***: August 23, 2002

Due date ***(five years after triggering action date)***: August 23, 2007

Five Year Review Summary Form, cont'd.

Issues:

In September 2003, vinyl chloride was detected above the MCL in residential wells downgradient of the landfill. Vinyl chloride levels later retreated below the MCL at these wells. In all, groundwater sampling of more than 100 residential wells downgradient of the landfill indicated the presence of a vinyl chloride plume at concentrations below the MCL. The PRPs designed, constructed, and implemented an action to connect nearly 400 residences to a municipal water supply. The PRPs agreed also to continue to maintain the protectiveness of the Site in accordance with the 1989 ROD, 1989 Unilateral Administrative Order, and a proposed 2007 Consent Decree and attached Remedial Action Work Plan. These documents are discussed in more detail in this review.

- Some contaminants exceeded the MCLs in residential wells downgradient of the landfill.
- Some contaminants exceed the MCLs in groundwater within the landfill boundary.
- Evaluate and implement ICs at the Site as needed.

Recommendations and Follow-up Actions:

- Continue to collect and analyze groundwater samples, perform cap repairs and upgrades as needed, operate the leachate collection system, operate the gas control system, conduct O&M related activities, and submit reports.
- Develop an IC Action Plan to further evaluate existing ICs and to plan for implementation of ICs as needed.

Protectiveness Statement(s):

The remedy at the Wauconda Sand & Gravel Landfill Site included operable unit # 1 and operable unit # 2. Operable unit # 1 consisted primarily of the installation of a leachate collection system to prevent contaminated leachate from reaching Mutton Creek, the installation of a perimeter fence to prevent access to the Site, and landfill cap upgrades. Operable unit # 1 is operating as intended by the RODs and is considered to be protective of human health and the environment in the short-term. The major components of operable unit # 2 included the following: monitoring well network upgrade, groundwater monitoring, landfill gas management, leachate monitoring, surface water monitoring in Mutton Creek, upgrade of the existing cap, restricted use of on-Site land and groundwater, and the continued maintenance of the interim remedial measures. Operable unit # 2 is operating as intended by the RODs and is considered to be protective of human health and the environment in the short-term. Both operable unit # 1 and operable unit # 2 are expected to be protective of human health and the environment in the long-term upon attainment of all cleanup standards. In the interim, exposure pathways that could result in unacceptable risks are being controlled by preventing

exposure to, or the ingestion of, contaminated groundwater. All threats at the Site have been addressed through the installation and operation of the leachate collection system, including leachate monitoring, landfill cap upgrades, groundwater monitoring and landfill gas management. Further, the effectiveness of the remedy has been enhanced by the Wauconda Task Group (WTG) connecting approximately 400 residential properties to the Village of Wauconda municipal water system. Long term protectiveness requires implementation and compliance with land use restrictions that prohibit interference with the hazardous waste cap and soil in the limited industrial land use area and groundwater use restrictions. The land use restrictions required by the ROD have not been implemented at the Site. U.S. EPA will develop an IC Action Plan to evaluate existing ICs and determine if additional ICs are needed and to implement additional ICs as necessary. Sampling and analysis of groundwater monitoring wells for the presence of VOCs and metals will be continued at the Site. Current groundwater monitoring data indicate that the remedy is functioning as required to achieve groundwater goals.

Other Comments:

The Site is under new ownership. First Land Group, Inc. and Washington Land Management, Inc. now own the three tax parcels that make up the Site. These two corporations are affiliated with Dale Berger, owner of Berger Excavating, and his family. In a letter to U.S. EPA dated May 8, 2007, Mr. Berger proposed to mine out sand and gravel from the extreme southwestern-most portion of the Site, which was never landfilled and is beyond the extent of the landfill cap. Mr. Berger proposes to cap the area with clay, and build an industrial park after the excavation is completed. U.S. EPA has provided conditional approval to begin engineering design.

I. Introduction

The purpose of the five year review is to determine whether the remedy at the Site is protective of human health and the environment. The objectives of this five year review report are to summarize the protectiveness of the remedy, to identify issues of concern, and to provide recommendations for addressing those issues. U.S. EPA prepared this five year review pursuant to Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) §121 which states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

U.S. EPA also prepared this five year review pursuant to The National Contingency Plan (NCP), 40 CFR § 300.430(f)(4)(ii), which states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

This is the third five year review for the Site. The triggering action for this statutory review is the date of the last five year review for the Site. The last five year review was signed on August 23, 2002. These reviews are required due to the fact that hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

II. Site Chronology

Table 1. Site Chronology

Date	Event
1943	Landfill operations conducted at the Site.
Prior to 1950	Sand & gravel excavations operations commenced at the Site.
07/1978	Closure of Site operations.
09/08/1983	Site placed on the National Priorities List.
1983 to 1985	RI/FS conducted at the Site.
08/12/1985	Proposed plan identifying U.S. EPA's preferred remedy for operable unit # 1 presented to the public; start of public comment period.
06/1986	Administrative Order on Consent (# 1) required the WTG to conduct a supplemental RI/FS and implement interim remedial measures.
05/02/1988	Proposed plan identifying U.S. EPA's preferred remedy for operable unit # 2 presented to the public; start of public comment period.
09/1988	Administrative Order on Consent (# 2) required Browning Ferris to conduct additional groundwater monitoring, residential well survey, and continued maintenance of interim remedial measures.
03/31/1989	Final ROD issued by U.S. EPA addressing overall Site issues.
12/1989	Unilateral Administrative Order required WTG to implement the final ROD.
09/30/1991	PRP remedial design approved by U.S. EPA.
05/05/1992	Start of mobilization and on-Site construction activities for implementation of interim remedial activities.
04/20/1994	Consent decree required reimbursement of past and future response costs.
09/27/1994	Pre-final inspection of remedial action.
08/02/1996	Certified completion of on-Site construction and remedial action activities.
04/07/1997	Remedial action report submitted by WTG.

Date	Event
05/30/1997	O&M Plan approved by U.S. EPA.
05/1997	1st five year review.
08/23/2002	2nd five year review.
09/2003	Vinyl chloride detected in residential wells near Site.
01/2004	WTG conducts sampling of over 200 residential wells.
09/2004	U.S. EPA issued unilateral administrative order requiring RI/FS and additional groundwater studies.
12/2006	Approximately 400 residential properties connected to the Village of Wauconda municipal water system.
05/15/2007	Site inspection by U.S. EPA, Illinois EPA, and WTG.

III. Background

Physical Characteristics

The Site is located in Wauconda in Lake County, Illinois. The Site consists of three tax parcels. The first parcel, identified as parcel # 09-24-100-001, is 60 acres and is owned by First Land Group, Inc. The second parcel, identified as parcel # 09-24-102-001, is 7 acres and is owned by Washington Land Management, Inc. The third parcel, identified as parcel # 09-24-102-002, is 9 acres and is owned by Washington Land Management, Inc. Nearly 6 acres of the landfill once operated under a State permit. The remaining 47 acres of the landfill never operated under a State permit because landfill operations in this area pre-dated the permitting process. The area surrounding the Site is comprised of residential, agricultural and light industrial properties as discussed below. The Site is bordered on the north by Mutton Creek, on the south by Bonner Road and on the east by Garland Road. (See Attachment 1.)

Land and Resource Use

The historic land use of the Site involved sand and gravel excavation activities, and recreational activities such as rifle practice, model plane flying, and snowmobiling. The Site was used as a sand and gravel pit prior to 1950. In 1950, Wauconda Sand & Gravel Company was incorporated and began landfill operations at the Site. Both the permitted and unpermitted portions of the Site were closed in 1978, and a clayey loam soil was placed on the top of the landfill.

As stated above, the current land use for the surrounding area is residential, light industrial, and agricultural. Land use to the north of the Site is agricultural with some area used as a pasture. Land use is residential and commercial to the east of the Site near the Bonner Road and Garland Road intersection. Residential land use is south of the Site while industrial and commercial land uses are to the west of the Site. It is anticipated that a mix of land uses similar to that described above will continue near the Site in the future. In establishing cleanup requirements for the Site, U.S. EPA considered the existing residential development near the Site. The landfill is currently fenced and the contamination remains contained within the fenced area under a soil cap.

Five hydrogeologic units underlie the Site. (See Attachment 2 and Attachment 3.) These units are as follows:

- the surficial unit composed of unconsolidated silt and clay;
- the upper sand and gravel, which comprises the upper aquifer;
- the middle clay unit, which comprises an aquitard;
- the lower sand and gravel, which comprises the upper part of the lower aquifer; and
- the dolomite bedrock, which comprises the lower part of the lower aquifer.

The groundwater flow in the lower aquifer is to the southwest. The upper fine grain unit is encountered at ground surface and ranges in thickness from 20 to 65 feet. The upper aquifer is encountered at elevations ranging between 770 to 710 feet above mean sea level, and ranges in thickness from 40 to 170 feet. The middle clay aquitard is found at elevations ranging from 700 to 690 feet above mean sea level, and ranges in thickness from zero to 85 feet. (At groundwater monitoring location OW418, the middle clay aquitard does not exist and the upper and lower aquifers form one unit. This condition only exists at monitoring well location OW418 and is not observed at the nearby groundwater monitoring well locations.) The lower aquifer, used as a drinking water source, ranges in thickness from five to 15 feet and is present from 630 to 620 feet above mean sea level. The dolomite bedrock unit is encountered at elevations ranging from 605 to 595 feet above mean sea level.

History of Contamination

During the sand & gravel pit operations, a gravel pit, which covered a major portion of the present Site, was excavated to an estimated depth of 730 feet above sea level, which is about 40 feet below the shallow aquifer groundwater table and 40 to 80 feet below adjacent ground surface contours. There is an estimated 5.4 million cubic yards of waste material contained in the 47 acre unpermitted landfill. Once landfill operations began at the Site, the mined-out gravel pit was filled with refuse including residential garbage, construction debris, and industrial wastes and sludges. Soil borings made at the landfill perimeter, geophysical test results, and Illinois EPA reports indicated that waste materials were deposited in the landfill at the 730 feet elevation. Illinois EPA sampled a private well adjacent to the eastern boundary of the landfill and concluded that the well sample contained organic, inorganic, and poly-chlorobiphenyl contamination. Monitoring and sampling of additional wells surrounding the landfill and Mutton Creek showed that nearby groundwater sources were

contaminated by organics, polychlorinated biphenyls, and metals. In subsequent sampling events, polychlorinated biphenyls were not detected.

Initial Response

Groundwater and surface water sampling showed that the water quality of Mutton Creek was impacted by leachate releases from the Site. The Site was proposed for the National Priorities List in July 1982. The Site was listed on the final National Priorities List on September 8, 1983, (48 Federal Register 40658).

Between 1983 and 1985, the RI/FS for the Site was conducted. Initially, the Site was divided into two operable units. Operable unit # 1 addressed the imminent concerns of the Site through the interim ROD. Operable unit # 2 addressed the overall Site actions through the final ROD. Both RODs are discussed in more detail in the Remedial Actions section below.

Basis for Taking Action

Contaminants

Residential homes and groundwater monitoring wells were sampled during the first phase of the RI. Hazardous substances from the landfill were detected in the groundwater above the Federal and/or State drinking water standards including the following: nickel, lead, chromium, cadmium, benzene, silver, cyanide, vinyl chloride, arsenic, N-nitrosodiphenylame, tetrachlorethene, and bis (2 chloroethyl) ether.

IV. Remedial Actions

Remedy Selection

Operable Unit # 1

The interim ROD for operable unit #1 for the Site was signed on September 30, 1985. Interim remedial action objectives were developed as a result of data collected during the RI to aid in the development and screening of remedial alternatives to be considered for the ROD. The remedial action objectives for the Site were as described below:

Source Control Response Objectives

- Reduce risks to human health by preventing direct contact with, and ingestion of, contaminants in the property soils, and by preventing potential ingestion of contaminated groundwater;

- Reduce risks to the environment by preventing direct contact with, and ingestion of, contaminants on the property;

- Minimize the migration of contaminants from property soils that could result in surface water concentrations in excess of water quality standards; and

- Reduce the potential of human health risks by eliminating the direct contact exposure route by installation of the perimeter fence.

These objectives were accomplished by the following interim remedial actions:

- The installation of a leachate collection system to prevent contaminated leachate from reaching Mutton Creek,

- The installation of a perimeter fence to prevent access to the Site, and

- The landfill cap upgrade.

Operable Unit # 2

The final ROD for the Site was signed on March 31, 1989. The major objectives of the final ROD were similar to the interim ROD and were accomplished by the following remedial activities:

- restricted use of on-Site groundwater,
- existing cap upgrade,
- landfill gas management,
- continued maintenance of the interim remedial measures,
- monitoring well network upgrade,
- groundwater monitoring,
- surface water monitoring in Mutton Creek (in the event of a leachate overflow), and
- leachate monitoring (in the event of a leachate overflow).

ICs were required for the Site by the 1989 ROD and the 1989 Unilateral Administrative Order. The objectives of the ICs included reducing risks to human health by preventing direct contact or exposure to contaminated groundwater by preventing use of the groundwater at the Site and restricting access to the Site. Wauconda Sand & Gravel

Co. never recorded any instrument(s) as required of it by the 1989 Unilateral Administrative Order.

Remedy Implementation

An Administrative Order on Consent was signed with a group of the PRPs in July 1986 that required the PRPs to perform the interim remedial measures at the Site. The settling PRPs identified themselves as the Wauconda Task Group and performed the following interim measures: additional groundwater investigations, installation of a leachate collection system to stop leachate releases to Mutton Creek, installation of a fence to restrict Site access and to prevent direct contact, and repairs and upgrades including revegetation to portions of the landfill cover to reduce infiltration and promote runoff.

In September 1988, U.S. EPA issued an Administrative Order on Consent to Browning Ferris Industries, another PRP. This Administrative Order required Browning Ferris Industries to conduct additional groundwater investigations, conduct a residential well survey, and continue maintenance of the interim remedial measures completed by the Wauconda Task Group under the earlier order.

After the U.S. EPA issued the final ROD for the Site on March 31, 1989, a Unilateral Administrative Order was issued on December 19, 1989, which ordered the PRPs to conduct the remedial design and remedial action selected in the final ROD. In January 1990, the WTG agreed to comply with the requirements of the Unilateral Administrative Order and to conduct the final remedy in conformance with the final ROD. The components of the final ROD included the following:

- restricted use of on-Site groundwater,
- existing cap upgrade,
- landfill gas management,
- continued maintenance of the interim remedial measures,
- monitoring well network upgrade,
- groundwater monitoring,
- surface water monitoring in Mutton Creek (in the event of a leachate overflow), and
- leachate monitoring (in the event of a leachate overflow).

In April 1991, the WTG submitted a remedial design/remedial action work plan for the Site. The final remedial design was completed in conformance with the ROD and approved on September 30, 1991. The remedial action activities began with the contractor mobilization in May 1992.

In 1992, the landfill cap was upgraded to eliminate ponding areas, provide erosion protection within swales and to ensure a minimum cap thickness of two feet. A 6-inch topsoil layer was added in areas of the landfill that had an insufficient cover. The original leachate collection system was installed in 1987 along the northern boundary of the Site to intercept or prevent subsurface leachate seeps from reaching Mutton Creek. This leachate collection system was modified in 1992 by connecting the two collection sumps and constructing a force main which allowed collected leachate to be discharged to the Village of Wauconda sanitary sewer system. A perimeter fence was constructed around the Site as an interim measure in 1987 and subsequently replaced or upgraded as needed. Passive vents were installed in two phases. The first phase included the installation of ten passive vents in the interior portion of the landfill in 1992. The second phase included the installation of eight passive vents along the Site perimeter in 1994. Groundwater monitoring wells were installed as part of this remedial action. Nineteen groundwater monitoring wells were included in the Site monitoring network. Four wells were identified as lower aquifer wells and nine wells were identified as upper aquifer wells. Groundwater monitoring wells OW412, OW413, OW414, and OW416 were installed in August 1991 and were screened in the upper aquifer. Groundwater monitoring well OW417 was installed in August 1991 and screened in the lower aquifer. Other groundwater monitoring wells were screened in the upper aquifer, installed in May 1985, and were as follows: OW404, OW405, OW406, OW407, and OW408. Lower aquifer monitoring wells G311B, OW409, and OW410 were installed in November 1983, September 1986, and October 1986, respectively.

The Preliminary Closeout Report was signed by U.S. EPA on August 22, 1996, which documented the completion of the Site-wide remedial action.

U.S. EPA and the State have determined that all remedial action construction activities were performed according to specifications. It is expected that the cleanup levels for all groundwater contaminants will be reached 30 years after the start of the remedial action. After groundwater cleanup levels have been met, U.S. EPA will issue a Final Close Out Report.

Institutional Controls

ICs are required to ensure the protectiveness of the remedy. ICs are non-engineered instruments, such as administrative and legal controls that help to minimize the potential for exposure to contamination and that protect the integrity of the remedy. ICs are required to assure long-term protectiveness for those areas that do not allow for UU/UE. ICs are also required to maintain the integrity of the remedy. The table below summarizes ICs for these restricted areas.

Table 2. Institutional Controls Summary Table

Media, Engineered Controls, & Areas that Do Not Support UU/UE Based on Current Conditions.	Institutional Control Objective	Title of Institutional Control Instrument Implemented (note if planned)
Landfill Property- Soil/Waste, constructed landfill cap, leachate collection system, and other remedy components	Prohibit residential or recreational use and prohibit interference with remedy	None; IC Action Plan in six months
Landfill Property - Groundwater	Prohibit groundwater consumption or other use within municipal service area	Ordinance; IC Action Plan in six months

A map which depicts the current conditions of the Site and areas which do not allow for UU/UE will be developed pursuant to the IC Action Plan.

Pursuant to U.S. EPA's request, the WTG prepared an IC study. That study indicated some land use restrictions have been implemented for the landfill and beyond. The Village of Wauconda has ordinances (Sections 51.13 and 52.07) requiring connection to the municipal water supply for property abutting on the public waterworks and sewerage system, and prohibiting the permit of new wells where a standard water main is now installed or may be installed in any street, alley, public way or easement in the Village. The Site is within the Village limits. Pursuant to an Intergovernmental Agreement with Lake County, dated March 8, 2005, no new private wells will be permitted if there is an available water main within 300 feet of the property proposed to be served by the private well. Also, fencing is located around the remedial action components to prevent interference with the remedial action.

U.S. EPA will develop an IC Action Plan to evaluate existing ICs and implement ICs as needed. The IC Action Plan will be completed within six months of the five year review.

System Operation/Operation and Maintenance

The WTG submitted an O&M plan to U.S. EPA in April 1991. A revised O&M plan was submitted to U.S. EPA for approval in August 1996. Presently, the WTG conducts operations and maintenance activities at the Site in accordance with the revised plan that was approved by U.S. EPA on September 8, 1998. The O&M plan included long term operations and maintenance activities for the leachate collection system, landfill cap, perimeter fence, monitoring wells, passive gas vents, inspection procedures for the landfill cap, and animal control. The primary activities associated with the Site O&M plan include the following:

Site inspections and reporting to U.S. EPA and the State

- Visual inspection of the cap including the vegetative cover, settlement, stability, and any need for corrective action. In addition, the cap is scheduled to be mowed periodically.

- Inspection of the drainage swales for blockage, erosion and instability, and any need for corrective action.

- Inspection of the condition of groundwater monitoring wells.

- Inspection of the leachate collection system for leachate flow monitoring and operational conditions of the system, recording of leachate flow rates three times per week and system parameters, removal of accumulated solids and precipitates from the line and sumps, and off-Site disposal of collected solids.

Environmental monitoring and sampling

- Annual sampling of groundwater monitoring wells, annual sampling of five residential wells, monthly sampling of the Hedgepath well and

- Quarterly sampling of the leachate collection system as part of the State permit requirements.

Compliance with ICs will be accomplished by planning for long-term stewardship which includes maintaining and monitoring effective ICs. To that end, an IC Action Plan will be developed to ensure long-term stewardship which includes maintaining and monitoring effective ICs including mechanisms to ensure regular inspections of ICs and an annual evaluation to U.S. EPA that ICs are in place and effective.

Primary O&M costs for the Site include landfill cap maintenance, residential well sampling, groundwater monitoring well sampling, monitoring well maintenance, leachate collection system operation, leachate collection system maintenance, leachate control system sampling, animal control, and landfill gas management. The ROD estimated annual O&M costs at $175,000. Current annual O&M costs are estimated at $185,000 to $225,000. Other costs relating to managing the Site, including technical and legal support, increase annual Site costs to range between $250,000 and $300,000.

V. Progress Since the Last Five Year Review

Since the last five year review, a significant amount of activity has occurred involving the Site. In September 2003, as part of a routine landfill monitoring program, the Lake County Health Department (LCHD) sampled residential wells in the Hillcrest Subdivision east of the Site. Sampling results showed vinyl chloride was detected in 1 well above the 1.0 ppb action level. Subsequent sampling in October, November, and December 2004 by the LCHD showed vinyl chloride in 3 wells ranging from 2.2 to 3.6 ppb. (The MCL for vinyl

chloride is 2.0 ppb.) On January 21, 2004, U.S. EPA requested that the WTG begin to delineate the extent of contamination. The WTG then initiated a series of sampling events in the Hillcrest and North Shore subdivisions in January 2004 with follow-up sampling in February and March 2004. These events involved the sampling of 125 out of 138 possible residential wells. Sampling results showed 81 of 125 wells had detectable levels of vinyl chloride contamination ranging from 0.1 to 1.9 ppb. On June 16 and 17, 2004, the WTG expanded the sampling to include the Lakeview Villa, Elmcrest, Spencer's Highlands, and Wellsmere subdivisions. A total of 16 residential wells out of a possible 249 wells were sampled during this event. Vinyl chloride was detected in 3 of these wells ranging from 0.91 to 1.3 ppb. The remaining 13 wells sampled showed no detections of vinyl chloride. As an interim action, residents in the Hillcrest, North Shore, Lakeview Villa, Elmcrest, Spencer's Highlands, and Wellsmere subdivisions as well as residents along North Garland Road were supplied bottled water by the WTG. In 2004, the WTG agreed to design, construct, and implement an action to connect nearly 400 residences to the Wauconda municipal water supply system. The WTG also agreed to develop a remedial action work plan and to enter into a Consent Decree. In June 2007, nearly 400 residents were connected to the Wauconda municipal water system. Residents along North Garland Road were not connected to the municipal water system but continued to receive bottled water from the PRPs to eliminate any potential threat of ingestion of contaminated water. With the exception of well GD207 (the Hedgepath well), further sampling of residential wells along North Garland Road in 2005, 2006, and 2007 showed no residential wells with detections of vinyl chloride at or above the Site action level or the MCL. See Attachment 4.

Overall, the Site continued to operate in accordance with the RODs, the O&M plan, and the administrative orders. The last five year review recommended the continuation of Site related activities such as landfill cap inspections, groundwater monitoring, operations and maintenance, and the submittal of monthly and quarterly reports. The protectiveness statement from the last review stated, among other things, that the remedies selected for the Site were expected to be protective of human health and the environment upon attainment of groundwater cleanup goals. In the interim, exposure pathways that could result in unacceptable risks were being controlled by preventing exposure to, or the ingestion of, contaminated groundwater. All threats at the Site have been addressed through upgrading the landfill cap, the installation and operation of a leachate control system, operation of a gas management system, and fencing to prevent access to the Site. In addition, the extension of the Wauconda municipal water line to residents eliminates any previous threat to residential wells.

VI. Five Year Review Process

Administrative Components

The Wauconda Sand & Gravel Landfill five year review team was led by Lolita Hill of U.S. EPA, Remedial Project Manager for the Site. Mike Joyce, Community Involvement Coordinator, and Mark Koller, Associate Regional Counsel, participated in the five year review process. The Illinois EPA was notified of the start of this review on January 8, 2007. Eric Runkel participated in the Site inspection as the Illinois EPA representative.

From January 2007 to May 2007, the review team conducted document review, data review, and a Site inspection to develop this five year review report.

Community Involvement

U.S. EPA notified the public of this review on January 19, 2007 through the Wauconda Journal and the Lake County Market Journal, two local newspapers distributed in the Wauconda, Illinois area. (See Attachment 5.) A copy of this five year review will be made available to the public at the Wauconda Area Library, Reference Desk, located at 801 North Main Street, in Wauconda, Illinois. A copy of the five year review can also be obtained from the U.S. EPA Region 5 Records Center, 7th Floor, 77 West Jackson Boulevard, Chicago, Illinois.

Document Review

This five year review consisted of a review of relevant documents including O&M records, inspection reports, groundwater monitoring results, and leachate sampling results. Applicable groundwater cleanup standards and performance standards for the remedy were reviewed. The major groundwater performance standards are as shown below:

- The concentration of hazardous substances in the groundwater beyond the Site borders should not exceed MCLs or other health based criteria;

- Action levels for residential wells were one-half the Primary Drinking Water Standard (40 C.F.R. 141);

- Action levels for monitoring wells with excursions of a Primary Drinking Water Standard as defined in 40 C.F.R. 141 or an excursion of the cumulative carcinogenic risk levels (excluding arsenic and vinyl chloride) for a lifetime drinking water supply of $1x10^{-5}$.

Data Review

Groundwater Monitoring

A significant amount of groundwater monitoring occurred at the Site since the last review. The last annual sampling event occurred in September 2006 which included sampling of upper and lower aquifer wells and 5 residential wells. The upper aquifer monitoring wells sampled during this event were G305B, OW403, OW405, OW406, OW407, OW408, OW412, OW413, OW414, and OW416. Lower aquifer monitoring wells sampled were OW409, OW410 and OW417. Sampled residential wells included BR031, BR143, CN221, CN325, CN645-2, and GD207 (also known as G224). Samples were analyzed for VOCs, metals, and general water quality parameters. The results of this sampling event were consistent with historical sampling events. A summary of this event is included in Table 3

and Table 4 below. Also, refer to Attachment 6 for more detailed data of this sampling event.

Table 3. Summary of Monitoring Well Sampling Results (September 2006)

Well #	Vinyl Chloride (ug/L)	TCE (ug/L)	Benzene, (ug/L)	1,2- Dichloro-ethane (ug/L)	Arsenic, total (ug/L)	Chloride (mg/L)	Nitrogen, Nitrite (mg/L)
OW409	---	---	---	---	---	348	0.35
OW410	---	---	---	---	---	133	0.19
OW417	---	---	---	---	---	155, 153	0.22
G305B	0.98J	---	---	---	---	77.5	---
OW403	---	0.45J	---	---	---	168	0.16
OW405	---	---	---	---	---	75.8	---
OW406	---	---	---	---	---	807	---
OW407	---	---	---	---	---	962	1.4
OW408	0.22J	---	---	---	---	636	1.1
OW412	1.6	---	---	0.32J	---	153	---
OW413	---	---	3.7	---	33.6	624	0.64
OW414	---	---	---	---	---	102	0.16
OW416	3.9, 3.1	---	---	---	---	169, 173	0.12
MCL	**2**	**5**	**5**	**5**	**10**	**250**	**10**

(---) denotes analyte not detected in sample

Table 4. Summary of Residential Sampling Results (September 2006)

Well #	Vinyl Chloride (ug/L)	TCE (ug/L)	Benzene, (ug/L)	1,2- Dichloro-ethane (ug/L)	Arsenic, total (ug/L)	Chloride (mg/L)	Nitrogen, Nitrite (mg/L)
BR031	---	---	---	---	---	76.4	0.091J
BR143	---	---	---	---	---	169	---
CN221	---	---	---	---	---	3.1	0.17
CN325	---	---	---	---	---	9.4	---
CN645-2	---	---	---	---	---	33.7	---
GD207	2.0, 1.8	---	---	---	---	---	---
MCL	**2**	**5**	**5**	**5**	**10**	**250**	**10**

(---) denotes analyte not detected in sample

Additional groundwater sampling was conducted for the 12 residential wells located directly east of the landfill along North Garland Road from August 2005 to May 2007. With few exceptions, the results showed no detections of vinyl chloride as presented in Table 5 below. Vinyl chloride was not detected in these wells at or above the 1.0 ppb action level or the 2.0 ppb MCL.

Table 5. Summary of North Garland Road Residential Sampling Results

Well Number	August 2005	Nov 2005	March 2006	May 2006	July 2006	August 2006	Nov 2006	Feb 2007	May 2007
GD031	---	---	---	ND	ND	ND	---	---	---
GD065	---	---	0.15J ug/L, 0.18 ug/L vinyl chloride	ND	ND, 0.10J ug/L benzene	0.27J, 0.26J	---	---	ND
GD097	1J ug/L* benzene	---	---	---	---	---	---	---	---
GD237	---	---	---	ND	ND	ND	---	---	---
GD855	---	ND	---	ND	ND	ND	---	ND	---
GD871	---	ND	---	ND	ND	ND	---	---	ND

Well Number	August 2005	Nov 2005	March 2006	May 2006	July 2006	August 2006	Nov 2006	Feb 2007	May 2007
GD893	---	---	ND	ND	0.19J ug/L chloroform	ND	---	ND	---
GD911-2	---	0.59J ug/L chloro-methane	---	ND	ND	ND	---	ND	ND
GD941	ND, 1J* ug/L benzene	---	---	ND	ND	ND	ND	---	---
GD975	1J* ug/L benzene, 7 ug/L 2-butanone	---	---	ND	ND	ND	ND	---	---
GD979	---	---	ND	ND	ND	ND	---	---	ND
GD985	---	---	---	ND	ND	ND	ND	---	---

(ND) denotes analyte not detected in sample.
(*) denotes sample analyzed contained laboratory contaminants acetone & methylene chloride.
(---) denotes residential well not sampled.
MCLs: vinyl chloride (2 ug/L); benzene (5 ug/L); chloroform, total trihalomethanes (100 ug/L); 2-butanone (no MCL, PRG=7,000 ug/L); chloromethane (no MCL)

Site Inspection

A Site inspection was conducted on May 15, 2007, by U.S. EPA and Illinois EPA. The inspection was well attended by U.S. EPA, Illinois EPA and WTG representatives and contractors as noted in Attachment 7. The purpose of the inspection was to assess the protectiveness of the remedial action performed at the Site. Inspected Site areas included the leachate collection system, collection sumps and force main, passive gas vents, landfill cover, monitoring wells, and the new municipal water project service area. All perimeter fencing appeared to be in good condition. All fences had gates which were locked and secured. Groundwater monitoring wells were observed at the Site. There were no issues observed during this inspection relating to the passive gas vents or monitoring wells. However, noted during this inspection were landfill cap integrity issues such as cap subsidence, cap erosion, areas of ponding and areas where leachate seeps once occurred. Some of these issues were reported in quarterly reports by WTG in 2005 and 2006 and also observed in 2006 during a Site inspection conducted by Sultrac, U.S. EPA's contractor. The WTG submitted a work plan for these cap repairs in 2006, and U.S. EPA approved the work plan, but the repairs have not been completed due to saturated ground conditions at the Site. These repairs are expected to be completed by the end of 2007. (See Attachment 8.)

Interviews

Since the discovery of vinyl chloride in the Hillcrest residential monitoring wells in September 2003, U.S. EPA received numerous calls and letters from citizens in the Wauconda area. Residents were concerned about the effectiveness of the remedy and the impact of the Site on their health and well being. Some residents were relieved to learn that they would be included in the new municipal water program while others were unhappy to be excluded from the water program. Once the water connections were made, some residents expressed disappointment over the restoration of their lawns. Other residents expressed satisfaction with the connection of their homes to the municipal water system and the enhanced quality of their water.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

Yes. The review of documents, ARARs, risk assumptions, and the results of the Site inspection indicate that with the addition of the new residential connections to the municipal water system the remedy is functioning as intended by the Site RODs. The installation of the leachate control system, gas management system, and upgrading the landfill cap have achieved the remedial objectives to minimize the migration of contaminants to groundwater, to minimize the migration of contaminants to surface water, and to prevent direct contact with, or ingestion of, contaminants in soil and sediments. The installation of the Site fence has prevented access to the Site and thereby assisted in preventing exposure to, or ingestion of, contaminated groundwater. Operation and maintenance of the leachate control system and gas management system have been effective. Equipment repairs or replacements to remedial systems were made as necessary and identified to the U.S. EPA. The landfill cap maintenance program has aided the PRPs in identifying landfill cap deficiencies and addressing minor repairs. The PRPs submitted a work plan for performing major landfill cap repairs which includes areas of ponding, subsidence, erosion, and leachate seepage. U.S. EPA approved this work plan in 2006 and repairs will commence during the summer of 2007. Annual O&M costs are consistent with anticipated cost estimates and there are no indications of any difficulties with the remedy.

There were opportunities for system optimization observed during this review. For example, the monitoring well network will be upgraded to include additional groundwater monitoring wells and converted residential wells to ensure that sufficient data is available to assess the progress of the remedy at the Site. ICs need to be implemented to prohibit interference with the landfill cap. Existing groundwater use restrictions will undergo review by U.S. EPA in the IC Action Plan. No activities were observed that would have violated the intent of these ICs. The cap and the surrounding area were undisturbed. There were no new uses of groundwater observed at the Site. The fence around the Site is intact and in good condition.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid?

Yes. There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy. Minor landfill cap repairs have been made at the Site as needed and major cap repairs have been scheduled to be underway by the end of the summer of 2007. The leachate collection system and passive gas venting systems have operated as expected by the ROD. Groundwater monitoring at the Site and in the community has increased to ensure that the community is protected. The remedy has been enhanced with the addition of approximately 400 residents being connected to the Village of Wauconda municipal water supply system.

Changes in Standards and Things To Be Considered

As the remedial work has been completed, most ARARs or performance standards cited in the ROD have been met. ARARs that still must be met at this time and that have been evaluated include: the Safe Drinking Water Act, from which many of the groundwater cleanup levels were derived – MCLs (40 CFR §§ 141.11-141.16). There have been no changes in these ARARs and no new standards affecting the protectiveness of the remedy.

Changes in Exposure Pathways, Toxicity, and Other Contaminant Characteristics

The exposure assumptions used to develop the Human Health Risk Assessment included both current exposures (older child trespasser, adult trespasser) and potential future exposures (young and older future child resident, future adult resident and future adult worker). There have been no changes in the toxicity factors for the contaminants of concern that were used in the baseline risk assessment. These assumptions are considered to be conservative and reasonable in evaluating risk and developing risk-based cleanup levels. No change to these assumptions or the cleanup levels developed from them is warranted. There has been no change to the standardized risk assessment methodology that could affect the protectiveness of the remedy. The remedy is progressing as expected and it is expected that all groundwater goals will be maintained in the future should the Site conditions and surroundings remain constant.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No. There were no ecological targets identified during the baseline risk assessment and none were identified during the five year review. Therefore, monitoring of ecological targets is not necessary. There were no weather-related events that have affected the protectiveness of the remedy.

In 2004, sampling revealed low level vinyl chloride detections in a significant number of residential wells. At that time, 3 residential wells showed vinyl chloride detections above the MCL. Subsequent sampling of these residential wells indicated that vinyl

chloride concentrations fell below the MCL. These residents were immediately offered bottled water by the WTG and connected to the municipal water system.

Also, the WTG, at U.S. EPA's request, searched for all land use restrictions that have been imposed on the Site. Initial IC evaluation activities have determined that some land use restrictions have been implemented. The Village of Wauconda has ordinances (Sections 51.13 and 52.07) requiring connection to the municipal water supply for property abutting on the public waterworks and sewerage system, and prohibiting the permit of new wells where a standard water main is now installed or may be installed in any street, alley, public way or easement in the Village. The Site is within the Village limits. Pursuant to an Intergovernmental Agreement with Lake County, dated March 8, 2005, no new private wells will be permitted if there is an available water main within 300 feet of the property proposed to be served by the private well.

U.S. EPA will develop an IC Action Plan to evaluate existing ICs and to plan for implementation of ICs as needed. The IC Action Plan will be completed within six months of the five year review. Long-term stewardship requires the monitoring and review of the engineering controls and ICs to ensure long-term protectiveness. There is no other information that calls into question the protectiveness of the remedy.

Technical Assessment Summary

According to the data reviewed, the Site inspections, and the interviews, the remedy is functioning as intended by the final ROD. There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy. Landfill cap integrity issues have been identified by the WTG and a work plan has been developed by the WTG, and approved by U.S. EPA, to address such concerns. Many of the ARARs or performance standards for the Site, as described in the ROD, have been met. There are some performance standards that have not been achieved as presented earlier in Table 3 above. There have been no changes in the toxicity factors for the contaminants of concern that were used in the baseline risk assessment, and there have been no changes to the standardized risk assessment methodology that could affect the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

VIII. Issues

As indicated in Table 3, the MCL for some organic compounds are exceeded at groundwater monitoring wells. However, at this time, these excursions do not appear to affect the protectiveness of the remedy. The lack of fully executed ICs at the Site does not currently affect the protectiveness of the remedy since there is no evidence that groundwater is being extracted or used, or that current land use is negatively impacting the remedy. For future, long-term protectiveness, effective ICs must be implemented, monitored and maintained to restrict use of the Site. Also, long-term stewardship is required to ensure the long-term protectiveness of the remedy.

Table 6. Issues

Issue	Currently Affects Protectiveness (Yes/No)	Affects Future Protectiveness (Yes/No)
During the last five years some contaminants exceeded the MCLs in residential wells downgradient of the landfill.*	No	Yes
Some contaminants exceed the MCLs in groundwater within the landfill boundary.	No	Yes
Effective Institutional Controls are needed at the Site.	No	Yes

* There are no current exceedences of MCLs in residential wells being used by homeowners. These residences were hooked up to municipal water.

IX. Recommendations and Follow-up Actions

Groundwater monitoring wells have achieved cleanup goals for some contaminants. Other contaminants in the groundwater have not reached the cleanup goals. Therefore, the recommendation resulting from this five year review would be to continue operation and/or maintenance of the leachate collection system, the gas control system, and the landfill cap.

Table 7. Recommendations and Follow-up Actions

Issue	Recommendations Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness? (Yes or No)
Some contaminants exceeded the MCLs in residential wells	Continue to collect and analyze groundwater samples beneath and downgradient of the landfill; perform cap repairs and upgrades as	WTG	U.S. EPA & Illinois EPA	Until clean-up goals are maintained	No, current. Yes, future.

Issue	Recommendations Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness? (Yes or No)
downgradient of the landfill. *	needed; operate the leachate collection system; operate the gas control system; conduct O&M related activities; and submit reports.				
Some contaminants exceed the MCLs in groundwater within the landfill boundary.	Continue to collect and analyze groundwater samples beneath and downgradient of the landfill; perform cap repairs and upgrades as needed; operate the leachate collection system; operate the gas control system; conduct O&M related activities; and submit reports.	WTG	U.S. EPA & Illinois EPA	Until clean-up goals are maintained	No, current. Yes, future.
Evaluate and, if necessary, implement additional ICs at the Site.	Develop an IC Plan to further evaluate existing ICs; if necessary, contact current property owners to implement ICs, and assure long-term stewardship and effective ICs.	U.S. EPA, Illinois EPA, Current Site Owners, & WTG	U.S. EPA, Illinois EPA	6 months from date of this five year review report.	No, current. Yes, future.

* There are no current exceedences of MCLs in residential wells being used by homeowners. These residences were hooked up to municipal water.

X. Protectiveness Statement

The remedy at the Site included operable unit # 1 and operable unit # 2. Operable unit #1 consisted primarily of the installation of a leachate collection system to prevent contaminated leachate from reaching Mutton Creek, the installation of a perimeter fence to prevent access to the Site, and landfill cap upgrades. Operable unit # 1 is operating as intended by the RODs and is considered to be protective of human health and the environment in the short-term. The major components of operable unit # 2 included the following: monitoring well network upgrade, groundwater monitoring, landfill gas management, leachate monitoring, surface water monitoring in Mutton Creek, upgrade of the existing cap, restricted use of on-Site groundwater, and the continued maintenance of the interim remedial measures. Operable unit # 2 is operating as intended by the RODs and is considered to be protective of human health and the environment in the short-term.

Both operable unit # 1 and operable unit # 2 are expected to be protective of human health and the environment in the long-term upon attainment of all cleanup standards. In the interim, exposure pathways that could result in unacceptable risks are being controlled by preventing exposure to, or the ingestion of, contaminated groundwater. All threats at the Site have been addressed through the installation and operation of the leachate collection system, including leachate monitoring, landfill cap upgrades, groundwater monitoring and landfill gas management. Further, the effectiveness of the remedy has been enhanced by the WTG connecting approximately 400 residential properties to the Village of Wauconda municipal water system. Even though the land use restrictions required by the ROD have not been implemented at the Site, the existing Site use is consistent with the objectives set forth in the ROD and the implemented remedial actions at the Site are functioning as intended. Long term protectiveness requires implementation, maintenance, and compliance with land use restrictions that prohibit interference with the hazardous waste cap and soil in the limited industrial land use area and groundwater use restrictions until the cleanup standards are met. Sampling and analysis of groundwater monitoring wells for the presence of VOCs and metals will be continued at the Site. Current groundwater monitoring data indicate that the remedy is functioning as required to achieve groundwater goals.

XI. Next Review

The next five year review for the Site is required five years from the signature of this review.

BIBLIOGRAPHY

U.S. Environmental Protection Agency, "Record of Decision" for Wauconda Sand & Gravel Site, Wauconda, Illinois. September 30, 1985.

U.S. Environmental Protection Agency, " Record of Decision" for Wauconda Sand & Gravel Site, Wauconda, Illinois. March 31, 1989.

U.S. Environmental Protection Agency, "Unilateral Administrative Order" to Wauconda Task Group. June 1986.

U.S. Environmental Protection Agency, "Unilateral Administrative Order' to Wauconda Task Group. December 1989.

Conestoga Rovers & Associates, Annual Monitoring Report (#6 through #13), Wauconda Landfill Remediation, Wauconda, Illinois.

U.S. Environmental Protection Agency, "Five year Review" for Wauconda Sand & Gravel, Wauconda, Illinois May 1997.

U.S. Environmental Protection Agency, "Five year Review Guidance" 2001.

U.S. Environmental Protection Agency, "Remedial Investigation/Feasibility Study, Wauconda Sand & Gravel, Wauconda, Illinois." 1983.

Conestoga Rovers & Associates, Phase I and Phase II Groundwater Sampling Results, 2004 and 2005.

Conestoga Rovers & Associates, Potential Source Investigations, 2005.

Tetra Tech, Wauconda Residential Well and Groundwater Sampling Results, 2004, 2005, 2006 and 2007.

Tetra Tech, Wauconda Landfill Cap Inspection Reports (2005 and 2006).

Conestoga Rovers & Associates, Monthly and Quarterly Site Reports for Wauconda Sand & Gravel Landfill (2002 to 2007).

Conestoga Rovers & Associates, Annual Monitoring Reports for Wauconda Sand & Gravel Landfill (Report #14 through #18).

Preliminary Institutional Control Study Response from CRA (on behalf of WTG), Phase 1. May 7, 2007 and June 8, 2007.

Preliminary Institutional Control Study Response from CRA (on behalf of WTG), Phase 2. July 2, 2007.

ATTACHMENT 1

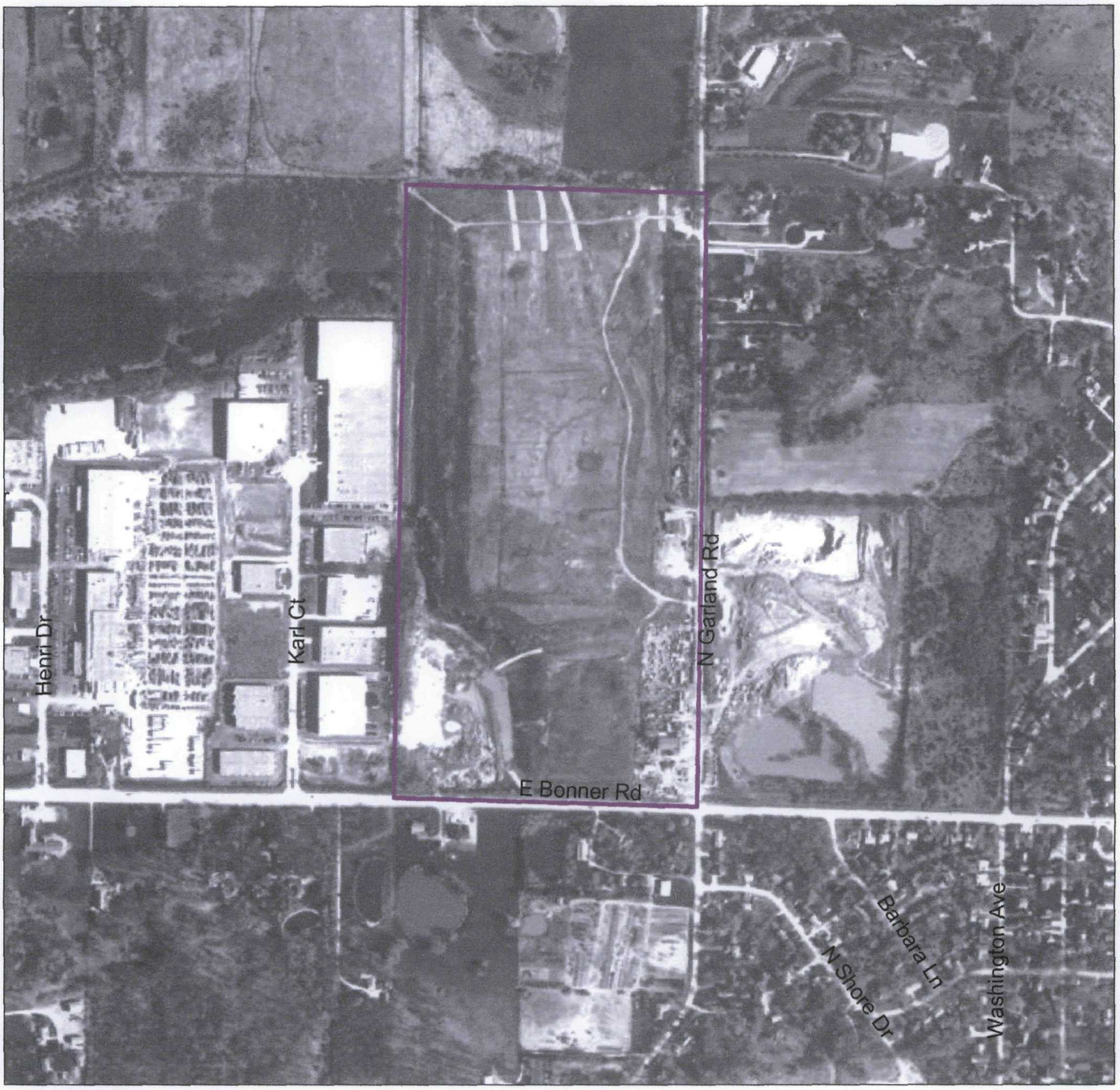
(Site Location Maps & Parcels)

Institutional Control (IC) Review
Site Base Map

Superfund
U.S. Environmental Protection Agency

Wauconda Sand & Gravel
Lake County, IL

ILD047019732



Legend

Wauconda Sand & Gravel Boundary

0 300 600 Feet

N

GEOS
Groundwater Evaluation and Optimization System

RPM: Lolita Hill

Created by Sarah Backhouse
U.S. EPA Region 5 on 9/25/06

LEGEND

- MONITORING WELL LOCATION
- UTM COORDINATES (NAD83 ZONE 16 N)
- LANDFILL BOUNDARY
- PARCEL BOUNDARIES
- AREA WHERE GROUNDWATER EXCEEDS PERFORMANCE STANDARDS
- UPPER AQUIFER WELLS PROHIBITED (WITHIN 1/2-MILE OF LANDFILL)
- WATER MAINS & AREAS WITHIN 300 FEET
- WAUCONDA VILLAGE LIMITS (CONNECTION TO MUNICIPAL WATER REQUIRED)

N

0 400 800

Feet

figure 1

INSTITUTIONAL CONTROLS STUDY
WAUCONDA LANFILL
Wauconda, Illinois

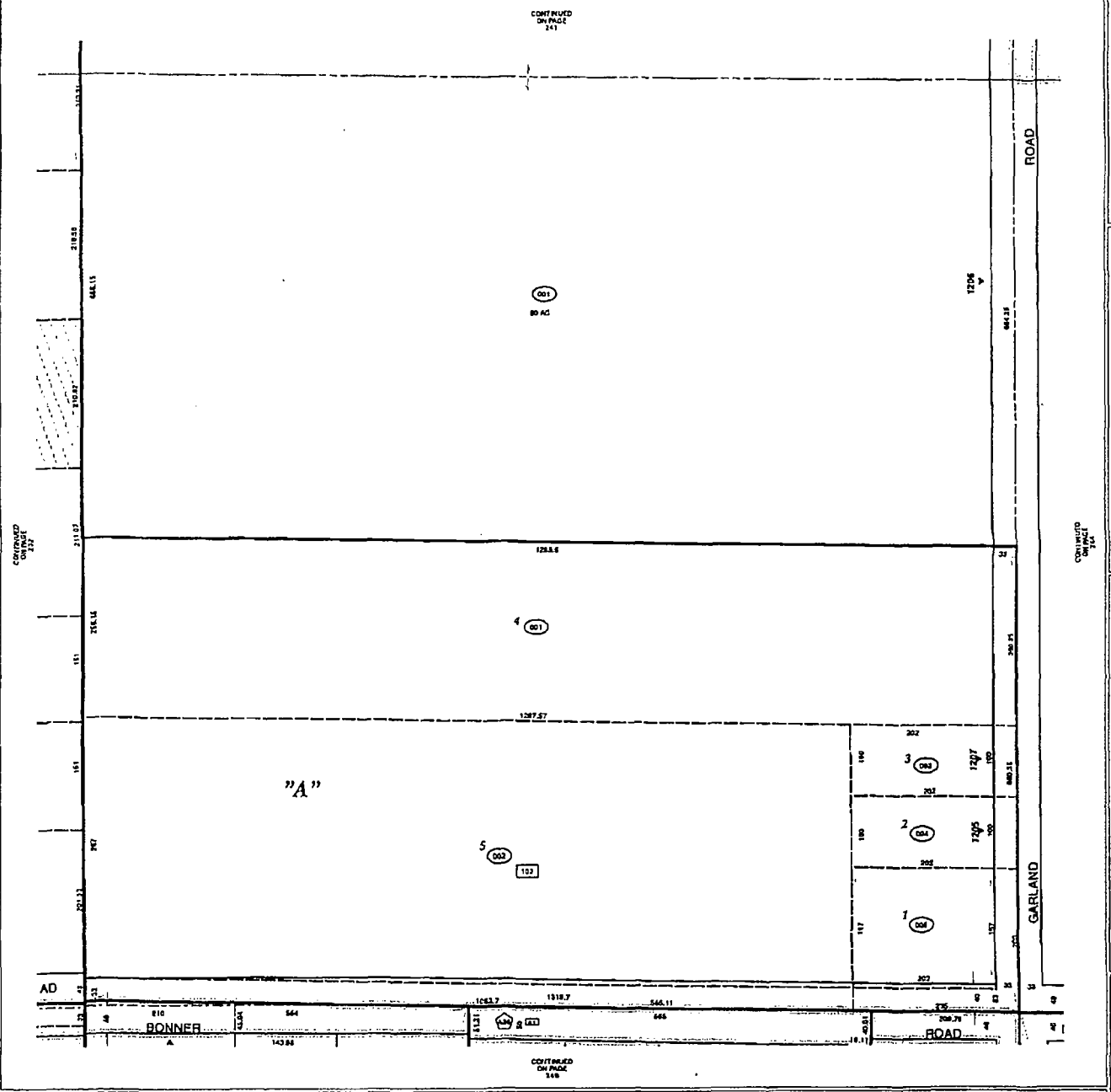
1449-74(HILL087)GIS-SP001 JUN 8/2007

ATTACHMENT A

- SITE MAP
- TAX PARCEL MAPS
- ZONING MAPS

THE TOWNSHIP OF WAUCONDA

TAX PARCEL MAP PAGE 243



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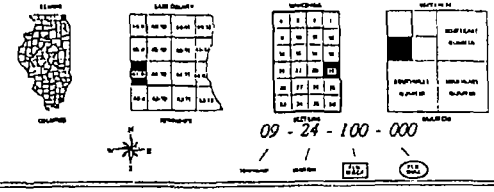
OF SECTION 24
TOWNSHIP 44 NORTH, RANGE 9 EAST



09 - 24 - 100 - 000

TAX CODES

TAX CODE 13-1
UNIT 5 SCHOOL DISTRICT 118
JUNIOR COLLEGE DISTRICT 533
WAUCONDA PARK DISTRICT
WAUCONDA AREA PUBLIC LIBRARY DISTRICT
VILLAGE OF WAUCONDA

SUBDIVISION AND CONDOMINIUM LOCATION INDEX

LOCATION	*SUBDIVISION NAME*
"A"	*WELDEN SUBDIVISION*

MAP REPRESENTATION

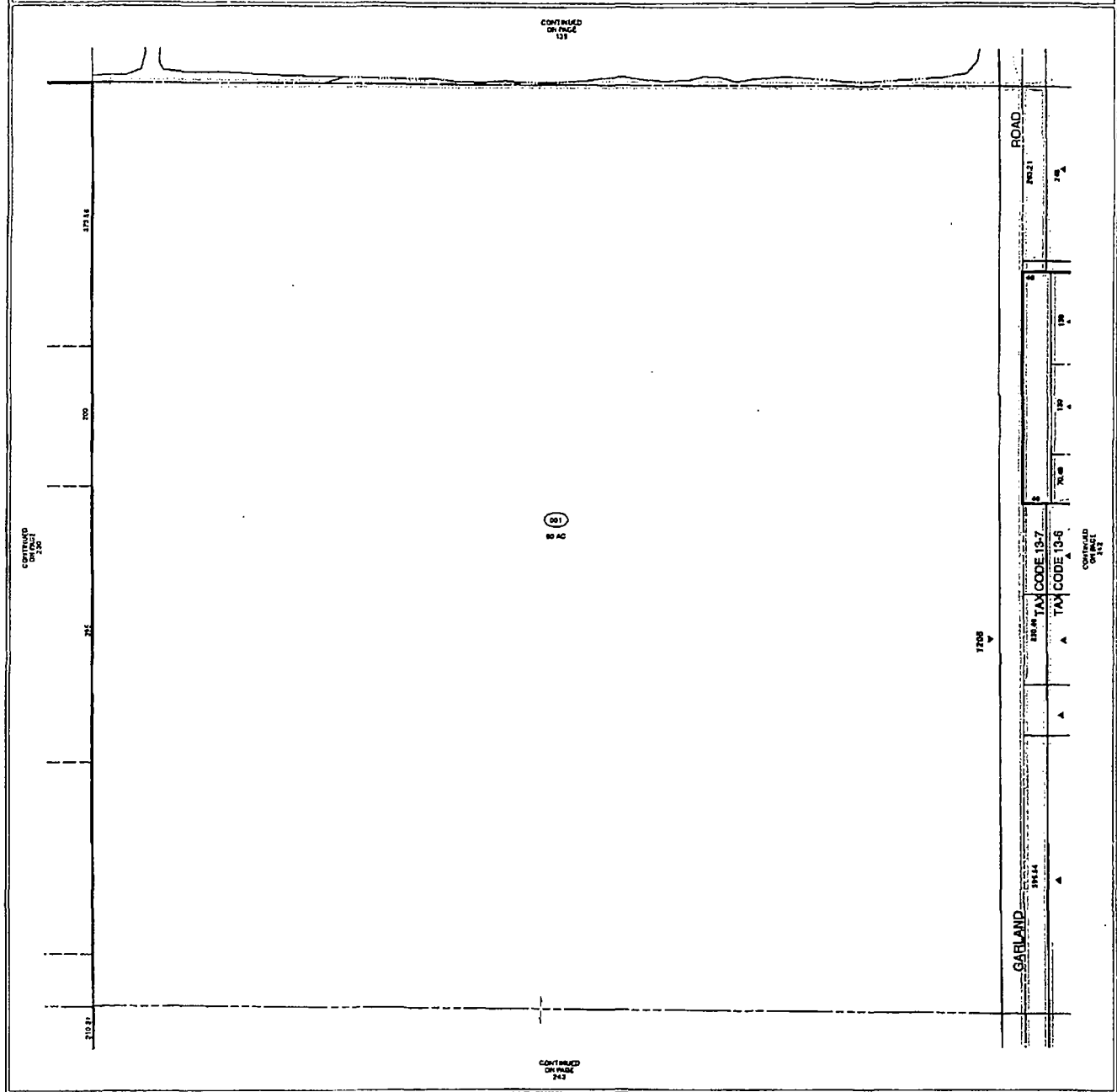
SECTION LINE		*SUBDIVISION*	
QUARTER SECTION LINE		*LOT LINES*	
EIGHTH QUARTER LINE		*ROAD CENTERLINE*	
SIXTEENTH QUARTER LINE		*ROAD RIGHT-OF-WAY*	
PARCEL BOUNDARY		*PRIVATE PROPERTY ROAD*	
SHORELINE		*RAILROAD TRACK*	
CENTERLINE OF RIVER OR STREAM		*TAX CODE*	

LakeCounty

SCALE 1" = 100'

0 100 200 300 400

PREPARED BY: LAKE COUNTY GIS/MAPPING DIVISION
REVISED 2006
18 NORTH COUNTY STREET
WAUKEGAN, ILLINOIS
60085
(847) 377-2373



THE AREA SHOWN IS THE
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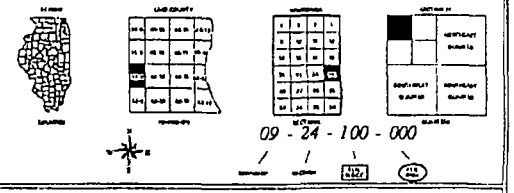
OF SECTION 24
TOWNSHIP 44 NORTH, RANGE 9 EAST



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TAX CODES

TAX CODE 13-1
UNIT SCHOOL DISTRICT 118
LAKE COUNTY COLLEGE DISTRICT 532
WAUCONDA PARK DISTRICT
WAUCONDA AREA PUBLIC LIBRARY DISTRICT
VILLAGE OF WAUCONDA

SUBDIVISION AND CONDOMINIUM LOCATION INDEX

MAP REPRESENTATION

SECTION LINE		*SUBDIVISION*	
QUARTER SECTION LINE		*LOT LINES*	
QUARTER QUARTER LINE		*ROAD CENTERLINE*	
QUARTER QUARTER QUARTER LINE		*ROAD RIGHT-OF-WAY*	
PARCEL BOUNDARY		*PRIVATE PROPERTY ROAD BRIDGES AND TUNNELS*	
SHORELINE		*RAILROAD TRACK*	
CENTERLINE OF RIVER OR STREAM		*TAX CODE*	

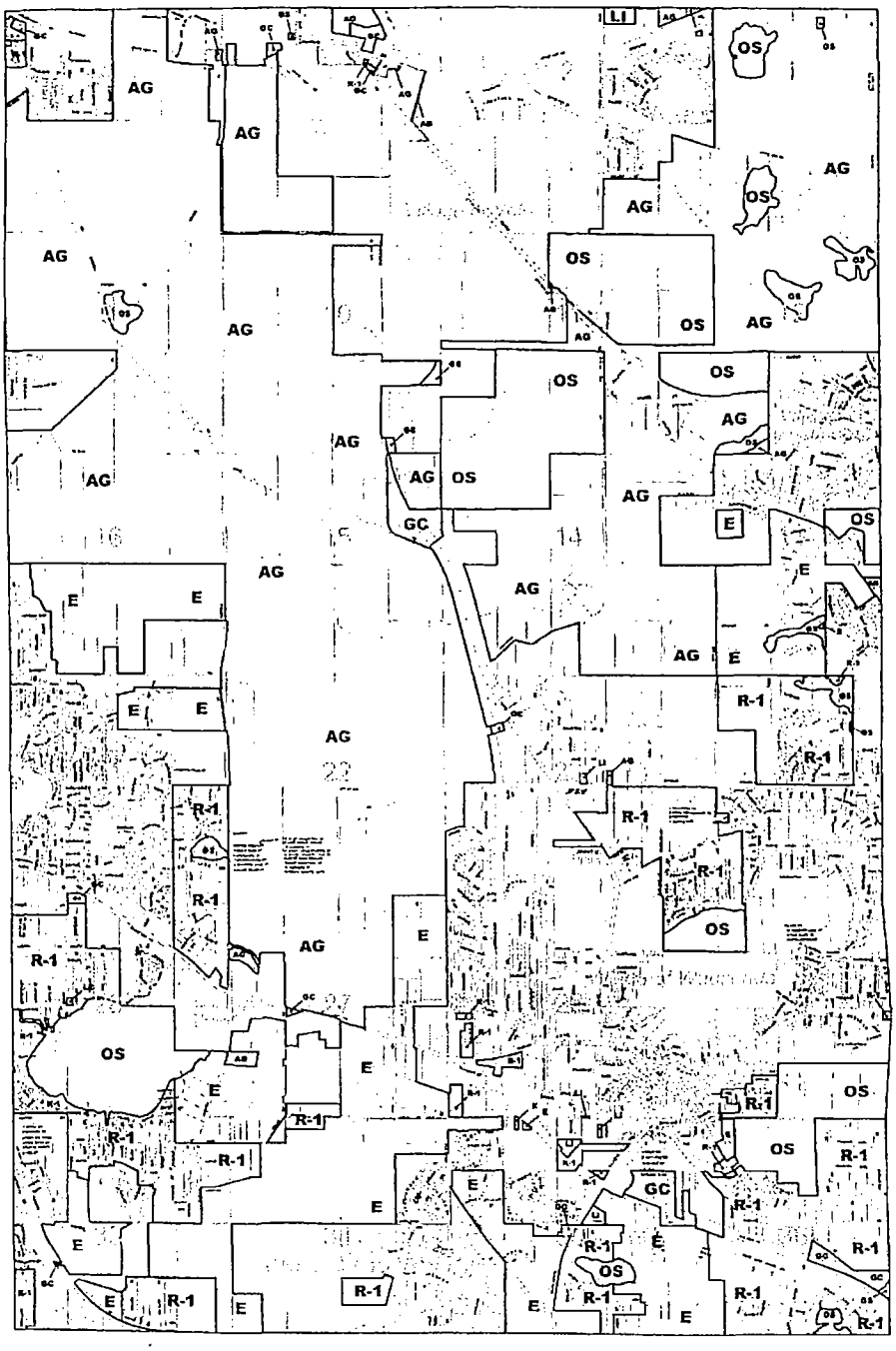
LakeCounty

SCALE 1" = 100'

0 100 200 300 400

PREPARED BY:
REVISED
2000

LAKE COUNTY MAP SERVICES
18 NORTH COUNTY STREET
WAUKEGAN, ILLINOIS
60085
(847) 360-6373



WAUCONDA TWP

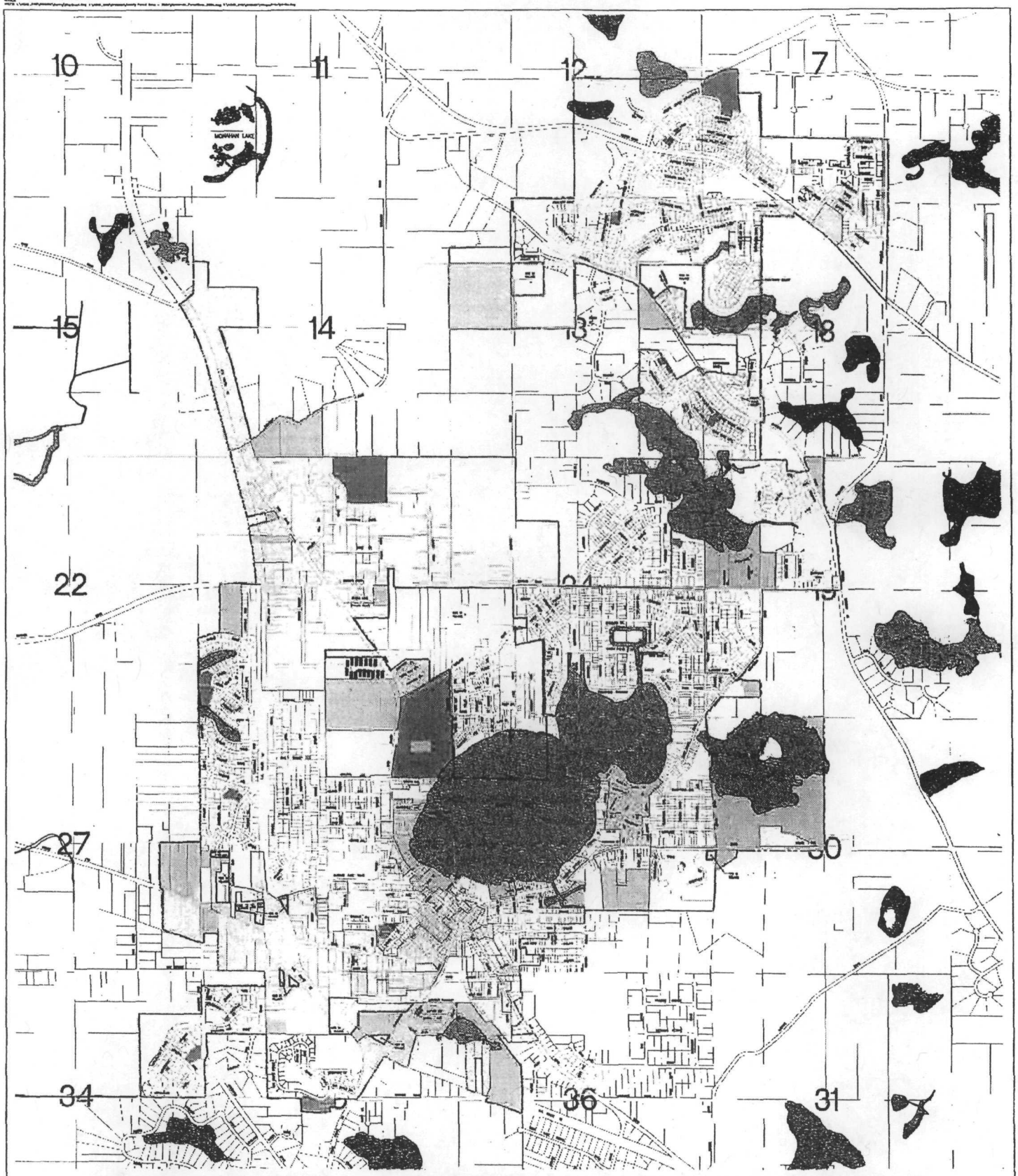
UDO ZONING MAP

AREAS NOT SUBJECT TO COUNTY ZONING

CITY / VILLAGE BOUNDARIES

AG Agricultural	LC Limited Commercial	R-2 Residential	R-6 Residential
E Estate	LI Limited Industrial	R-3 Residential	RC Recreational Commercial
GC General Commercial	OS Open Space	R-4 Residential	RE Rural Estate
GO General Office	R-1 Residential	R-5 Residential	RR Resort Residential
II Intensive Industrial			

4



VILLAGE OF WAUCONDA, ILLINOIS - ZONING MAP - APRIL 1, 2007

SALVATORE J. SACCOMANNO - MAYOR
MARY C. TAYLOR - CLERK
DANIEL E. QUICK - VILLAGE ADMINISTRATOR
WILLIAM S. METES - DIRECTOR BUILDING, ZONING AND ECONOMIC DEVELOPMENT

BOARD OF TRUSTEES

PATRICK MURPHY	MARK F. KNIGGE
PAUL C. BIRD	LINCOLN P. KNIGHT
CATHY SCOTT	JEAN MAYO

ZONING DISTRICTS

R1	SINGLE FAMILY RESIDENTIAL	AG	AGRICULTURAL
R2	SINGLE FAMILY RESIDENTIAL	CB	CENTRAL BUSINESS
R3	SINGLE/TWO FAMILY RESIDENTIAL	CR	COMMERCIAL RECREATION
R4	MULTI FAMILY RESIDENTIAL	GB	GENERAL BUSINESS
R5	MULTI FAMILY RESIDENTIAL	LI	LIMITED INDUSTRIAL
RSH	RESIDENTIAL SENIOR HOUSING	P	PARKS-WITH UNDERLINE ZONING
*	SPECIAL USE RESTRICTIONS	CE	CONSERVATION EASEMENT
1	CONDITIONAL USE PERMIT		
PUD	PLANNED UNIT DEVELOPMENT		

LEGEND

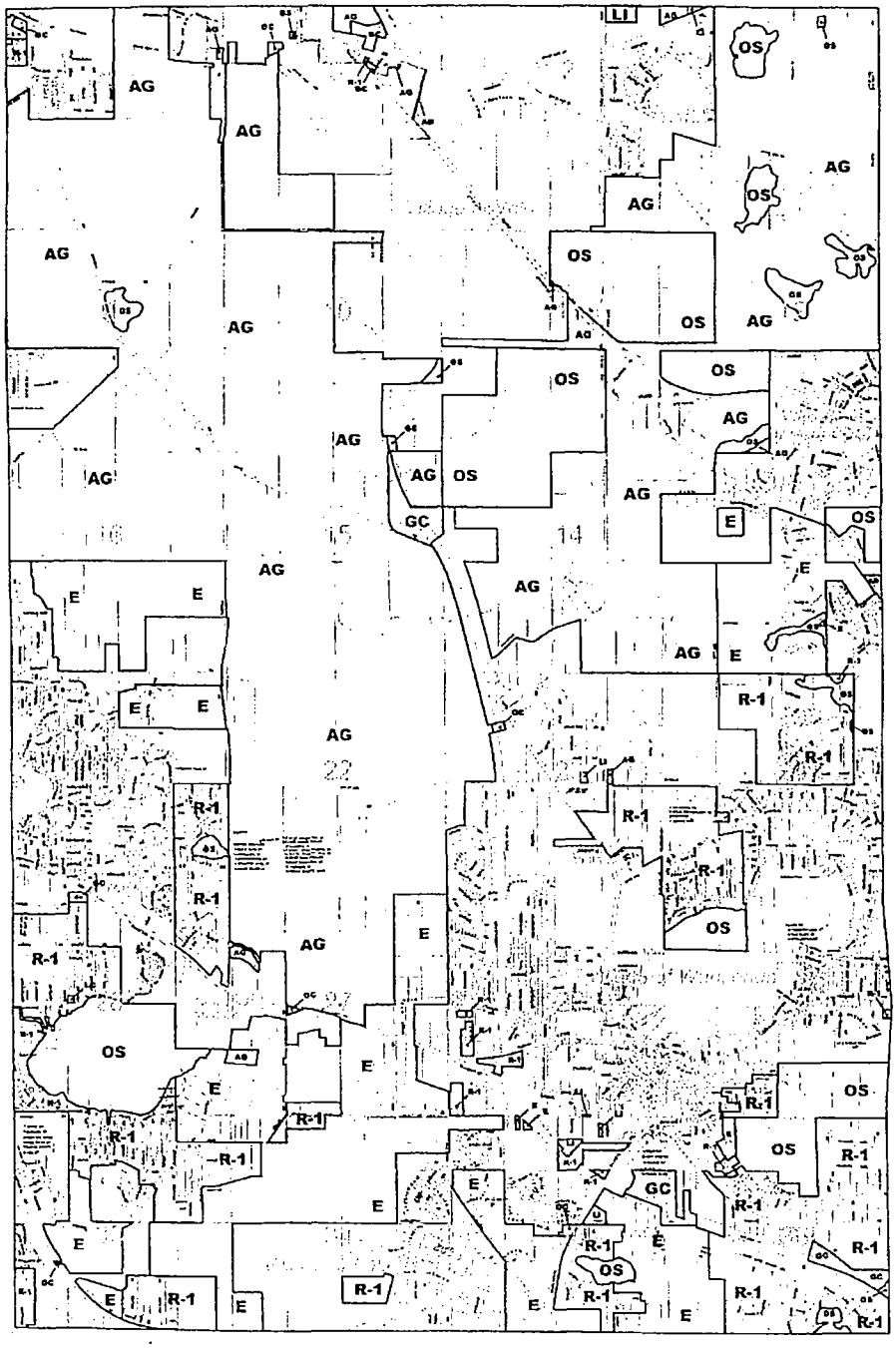
VILLAGE LIMITS LINE

ZONING LIMITS LINE

0 600 1200 2400
SCALE IN FEET

N W E S

Rueker-Mielke



WAUCONDA TWP

UDO ZONING MAP

AREAS NOT SUBJECT TO COUNTY ZONING

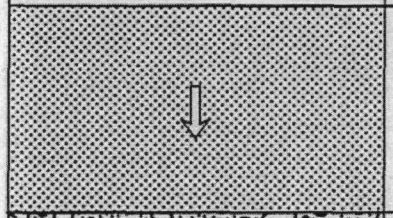
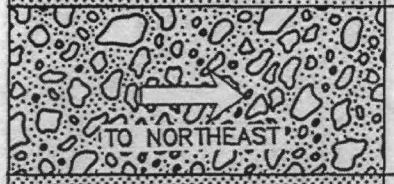
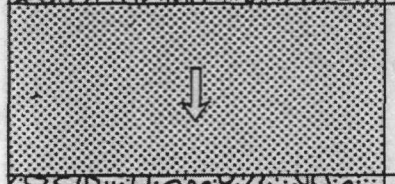
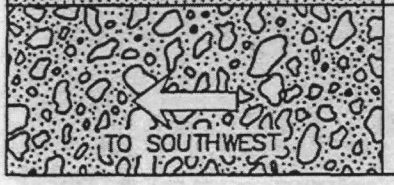
CITY / VILLAGE BOUNDARIES

AG Agricultural	LC Limited Commercial	R-2 Residential	R-6 Residential
E Estate	LI Limited Industrial	R-3 Residential	RC Recreational Commercial
GC General Commercial	OS Open Space	R-4 Residential	RE Rural Estate
GO General Office	R-1 Residential	R-5 Residential	RR Resort Residential
II Intensive Industrial			

4

ATTACHMENT 2

(Hydrogeologic Cross Section Schematic of Site)

STRATIGRAPHY/FLOW DIRECTION	HYDROGEOLOGIC DESCRIPTION	APPROXIMATE THICKNESS (feet)	LINEAR GROUNDWATER VELOCITY (ft/yr)	HYDRAULIC CONDUCTIVITY (cm/s)
	UPPER FINE GRAINED UNIT	0 – 90	–	–
	UPPER AQUIFER	20 – 95*	28	2.7×10^{-3}
	AQUITARD	0 – 85	0.01–0.11	4.1×10^{-8}
	LOWER AQUIFER	5 – 25*	72	2.1×10^{-2}

LEGEND

* COMBINED UPPER AND LOWER AQUIFER THICKNESS >120 feet

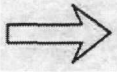
 DIRECTION OF GROUNDWATER FLOW

figure 3.1

HYDROGEOLOGIC CROSS SECTION SCHEMATIC
Wauconda Landfill Site

CRA

01449-43(087)GN-SP003 NOV 01/2006

ATTACHMENT 3

(Upper and Lower Groundwater Contours)

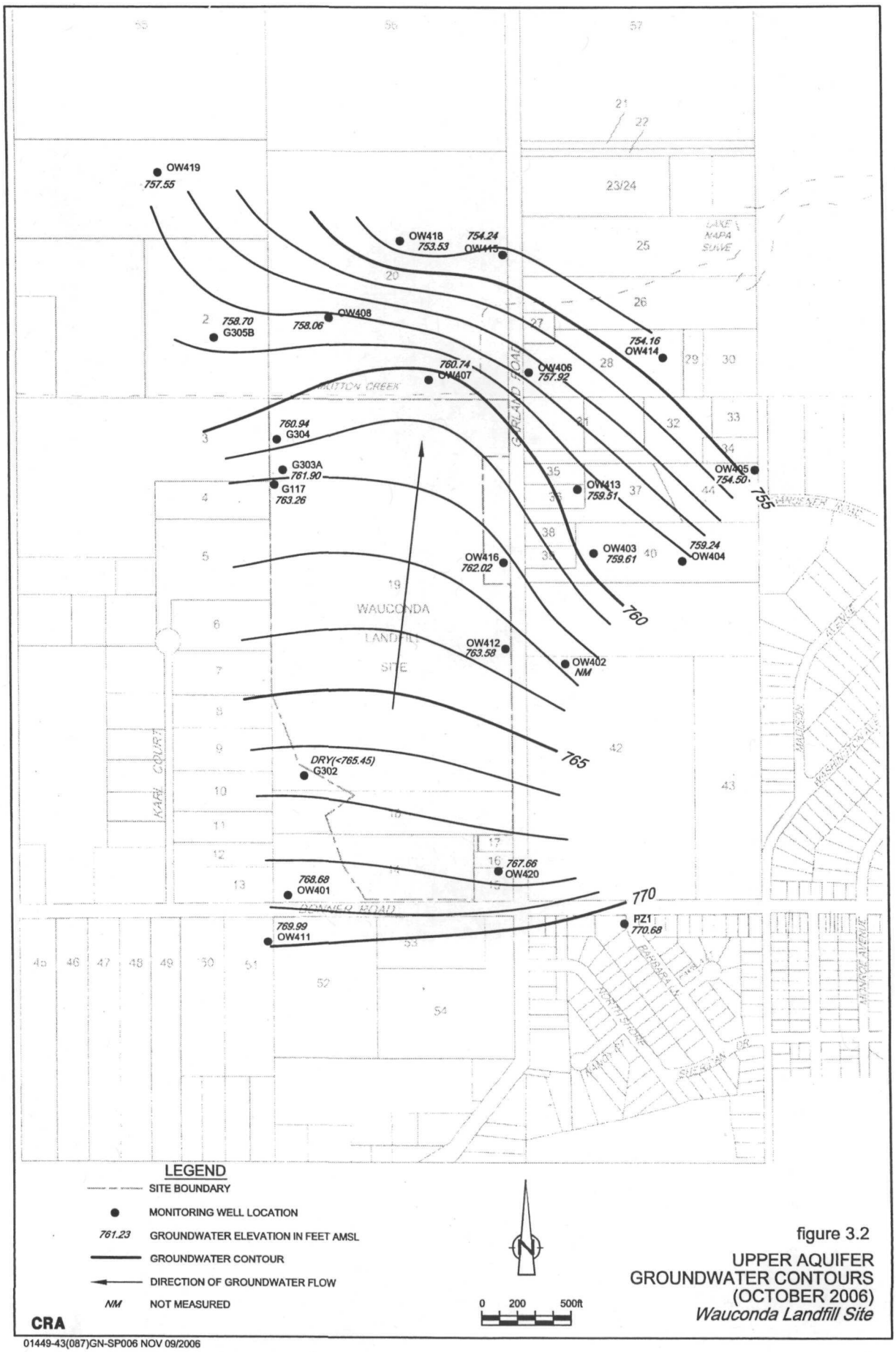


figure 3.2

UPPER AQUIFER
GROUNDWATER CONTOURS
(OCTOBER 2006)
Wauconda Landfill Site

01449-43(087)GN-SP006 NOV 09/2006

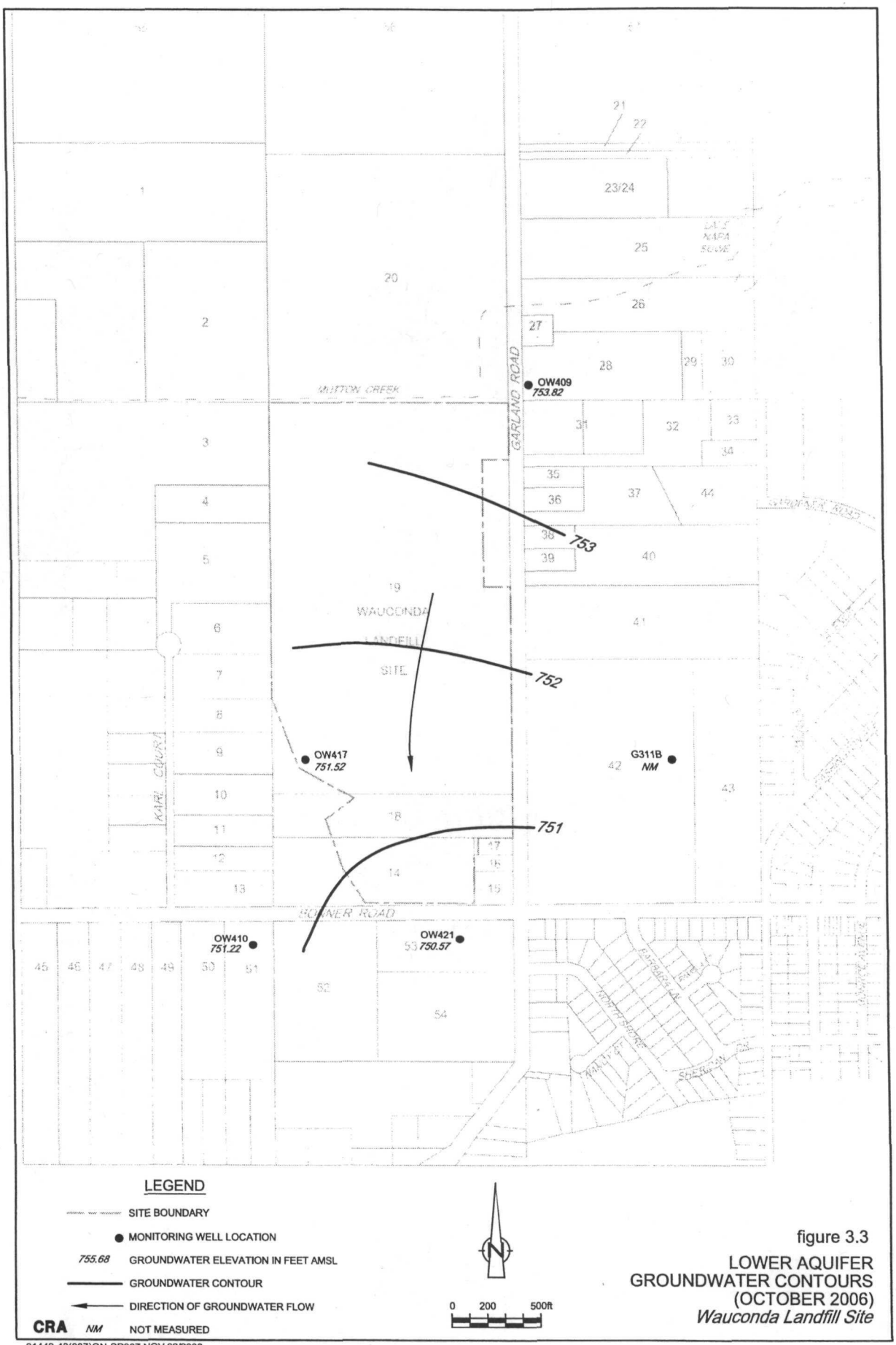


figure 3.3

LOWER AQUIFER
GROUNDWATER CONTOURS
(OCTOBER 2006)
Wauconda Landfill Site

01449-43(087)GN-SP007 NOV 02/2006

ATTACHMENT 4

(Sampling Data for Wauconda Area Subdivisions)

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUNDS
AND GENERAL WATER QUALITY PARAMETERS
RESIDENTIAL WELL LOCATIONS
HILLCREST AND NORTH SHORE SUBDIVISIONS
WAUCONDA, ILLINOIS

			Chemical Oxygen Demand	Chloride	Chloroethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	1,2-Dichloropropane	Nitrogen, as Ammonia	Nitrogen, Nitrate	Sodium, Total	Tetrachloroethene	Toluene	Vinyl chloride
Federal MCL			--	250 *	--	--	70	5	--	10	--	5	1000	2
Location	*Date*		mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L
Hillcrest Subdivision														
BR156	1/31/04		< 5	30	< 1	< 1	< 1	< 1	0.48 J	< 0.1 UJ	19	< 1	< 1	0.19 J
BR156	1/31/04	D	< 5	30	< 1	< 1	< 1	< 1	0.46 J	< 0.1 UJ	19	< 1	< 1	0.2 J
BR162	2/6/04		12	16	< 1	< 1	< 1	< 1	0.3 J	< 0.1	15	< 1	< 1	< 1
BR176	3/1/04		7.1	110	< 2	< 2	< 2	73	1.2	< 0.1	33	< 2	< 2	< 2
BR258	2/1/04		< 5	51	< 1	< 1	< 1	< 1	0.51 J	< 0.1 UJ	17	< 1	< 1	< 1
BR280	3/1/04		8.7	62	< 1	< 1	< 1	< 1	0.58	< 0.1	27	< 1	< 1	< 1
BR280	3/1/04	D	13	62	< 1	< 1	< 1	< 1	0.58	< 0.1	27	< 1	< 1	< 1
BR364	1/31/04		8.9	63	< 1	< 1	< 1	< 1	1.4 J	< 0.1 UJ	94	< 1	< 1	0.57 J
BR372	1/31/04		10	43	< 1	< 1	< 1	< 1	0.71 J	< 0.1 UJ	210	< 1	< 1	< 1
BR380	2/6/04		13	52	< 1	< 1	< 1	< 1	0.52 J	< 0.1	28	0.18 J	< 1	0.29 J
BR418	2/6/04		10	36	< 1	< 1	< 1	< 1	0.4 J	0.19	20	< 1	< 1	< 1
BR418	2/6/04	D	12	35	< 1	< 1	< 1	< 1	0.42 J	< 0.1	20	< 1	< 1	0.13 J
BR426	3/1/04		8.2	29	< 1	< 1	< 1	< 1	< 0.2	< 0.1	17	< 1	< 1	< 1
BR430	2/1/04		< 5	200	< 1	< 1	< 1	< 1	< 0.2 UJ	< 0.1 UJ	63	< 1	< 1	< 1
BR448	2/6/04		< 5	21	< 1	< 1	< 1	< 1	< 0.2 UJ	< 0.1	70	< 1	< 1	< 1
GR174	1/30/04		5.6	22	< 1	< 1	< 1	< 1	0.25	< 0.1	9.6	< 1	< 1	< 1
GR181	2/6/04		28	58	< 1	< 1	< 1	< 1	0.39 J	< 0.1	24	< 1	< 1	0.26 J
GR202	1/30/04		< 5	25	< 1	< 1	< 1	< 1	0.33	< 0.1	10	< 1	< 1	< 1
GR223	1/30/04		< 5	160	< 1	< 1	< 1	< 1	0.2	< 0.1	26	< 1	< 1	< 1
GR276	1/30/04		6.2	80	< 1	< 1	< 1	< 1	0.38	< 0.1	26	< 1	0.39 J	0.17 J
GR293	1/30/04		6.6	58	< 1	< 1	< 1	< 1	0.4	< 0.1	18	< 1	< 1	< 1
GR342	1/30/04		9.5	110	< 1	< 1	1.4	< 1	0.27	< 0.1	290	< 1	< 1	0.42 J
GR442	1/31/04		79	130	< 1	< 1	< 1	< 1	2.8	< 0.1	73	< 1	< 1	1.7
GR442	1/31/04	D	28	140	< 1	< 1	< 1	< 1	3	< 0.1	74	< 1	< 1	1.9
HN585	1/30/04		< 5	48	< 1	< 1	< 1	< 1	0.53	< 0.1	24	< 1	< 1	< 1
HN611	3/1/04		8.2	57	< 1	< 1	< 1	0.25 J	0.43	< 0.1	22	< 1	< 1	< 1
HN620	2/6/04		13	110	< 1	< 1	< 1	< 1	2.6 J	< 0.1	42	< 1	< 1	0.29 J
HN629	1/31/04		14	59	< 1	< 1	< 1	< 1	< 0.2	< 0.1	290	< 1	< 1	< 1
HN636	1/31/04		17	47	< 1	< 1	< 1	< 1	0.37	< 0.1	15 J	< 1	< 1	< 1
HN655	1/30/04		14	120	< 1	< 1	< 1	< 1	0.62	< 0.1	57	< 1	< 1	0.43 J
HN664	1/30/04		28	61	< 1	< 1	< 1	< 1	0.74	< 0.1	27	< 1	< 1	0.26 J
HN671	1/30/04		< 5	170	< 1	< 1	< 1	< 1	0.45	< 0.1	38	< 1	< 1	< 1
HN674	1/30/04		< 5	57	< 1	< 1	< 1	< 1	< 0.2	< 0.1	10	< 1	< 1	< 1
HN681	1/31/04		7.8	90	< 1	< 1	< 1	< 1	0.44	< 0.1	210	< 1	< 1	< 1
HN688	1/30/04		6.7	260	< 1	< 1	< 1	< 1	< 0.2	< 0.1	93	< 1	< 1	< 1
HN688	1/30/04	D	< 5	260	< 1	< 1	< 1	< 1	0.25	< 0.1	92	< 1	< 1	< 1
HN693	1/31/04		< 5	140	< 1	< 1	< 1	< 1	0.39	0.16	33	< 1	< 1	< 1
HN729	1/30/04		9.4	130	< 1	< 1	< 1	< 1	0.35	< 0.1	31	< 1	< 1	< 1
HN745	1/30/04		< 5	85	< 1	< 1	< 1	< 1	0.28	< 0.1	41	< 1	< 1	< 1
HN779	1/31/04		8.9	< 10	< 1	< 1	< 1	< 1	0.36	< 0.1	12	< 1	< 1	< 1

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUNDS
AND GENERAL WATER QUALITY PARAMETERS
RESIDENTIAL WELL LOCATIONS
HILLCREST AND NORTH SHORE SUBDIVISIONS
WAUCONDA, ILLINOIS

			Chemical Oxygen Demand	Chloride	Chloroethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	1,2-Dichloropropane	Nitrogen, as Ammonia	Nitrogen, Nitrate	Sodium, Total	Tetrachloroethene	Toluene	Vinyl chloride
	Federal MCL		–	250 *	–	–	70	5	–	10	–	5	1000	2
JN572	1/31/04		< 5	73	< 1	< 1	< 1	< 1	0.89	< 0.1	30	< 1	< 1	0.3 J
JN600	1/31/04		< 5	180	< 1	< 1	< 1	< 1	0.24	< 0.1	65	< 1	< 1	< 1
JN613	1/31/04		< 5	55	< 1	< 1	< 1	< 1	0.71	< 0.1	26	< 1	< 1	0.28 J
JN624	1/31/04		< 5	65	< 1	< 1	< 1	< 1	1.1	< 0.1	67	< 1	< 1	0.28 J
JN635	1/30/04		11	66	< 1	< 1	< 1	< 1	0.89	< 0.1	28	< 1	< 1	0.26 J
JN647	2/1/04		7.2	61	< 1	< 1	< 1	< 1	1.3 J	< 0.1 UJ	36	< 1	< 1	0.46 J
JN661	2/6/04		25	69	< 1	< 1	< 1	< 1	1.5 J	< 0.1	35	< 1	< 1	0.57 J
JN681	2/1/04		7.2	74	< 1	< 1	< 1	< 1	1.7 J	< 0.1 UJ	39	< 1	< 1	0.48 J
LE145	1/31/04		8.3	120	< 1	< 1	< 1	< 1	0.69	< 0.1	37	< 1	< 1	< 1
LE145	1/31/04	D	19	120	< 1	< 1	< 1	< 1	0.71	< 0.1	35 J	< 1	< 1	< 1
LE185	1/31/04		< 5	33	< 1	< 1	< 1	< 1	0.49	< 0.1	18 J	< 1	< 1	0.27 J
LE203	1/31/04		6.6	48	< 1	< 1	< 1	< 1	0.57	< 0.1	22 J	< 1	< 1	< 1
LE219	1/30/04		15	120	< 1	< 1	< 1	< 1	0.67	< 0.1	48	< 1	< 1	0.36 J
LE225	1/31/04		< 5	69	< 1	< 1	< 1	< 1	0.65	< 0.1	25 J	< 1	< 1	0.19 J
MN632	1/30/04		21	140	< 1	< 1	0.49 J	< 1	1.8	< 0.1	310	< 1	< 1	0.8 J
MN650	1/31/04		17	130	< 1	< 1	< 1	< 1	9.2	< 0.1	65	< 1	< 1	< 1
MN662	1/31/04		41	130	< 1	< 1	0.55 J	< 1	11	< 0.1	65	< 1	< 1	0.83 J
MN682	1/31/04		36	190	< 1	< 1	< 1	< 1	3	< 0.1	390	< 1	< 1	0.59 J
MN690	1/30/04		14	140	< 1	< 1	< 1	< 1	0.47	< 0.1	54	< 1	< 1	< 1
MN690	1/30/04	D	12	130	< 1	< 1	< 1	< 1	0.52	< 0.1	54	< 1	< 1	< 1
MN715	1/30/04		16	140	< 1	< 1	< 1	< 1	0.5	< 0.1	54	< 1	< 1	< 1
MN734	1/30/04		28	120	< 1	< 1	< 1	< 1	0.62	< 0.1	43	< 1	< 1	< 1
MN742	1/30/04		20	190	< 1	0.19 J	2.6	< 1	26	< 0.1	100	< 1	< 1	0.94 J
MN750	1/30/04		18	120	< 1	< 1	< 1	< 1	0.58	< 0.1	44	< 1	< 1	< 1
MN757	1/31/04		7.8	100	< 1	< 1	1.8	< 1	0.72	< 0.1	59	< 1	< 1	0.93 J
MN769	1/30/04		6.1	75	< 1	< 1	0.28 J	< 1	4.1	< 0.1	31	< 1	< 1	0.26 J
MN775	1/30/04		< 5	130	< 1	< 1	< 1	< 1	< 0.2	< 0.1	31	< 1	< 1	< 1
MN776	1/30/04		12	160	< 1	< 1	< 1	< 1	0.68	< 0.1	53	< 1	< 1	0.17 J
MN781	1/31/04		< 5	120	< 1	< 1	< 1	< 1	< 0.2	< 0.1	18	< 1	< 1	< 1
MN788	1/30/04		7.8	120	0.62 J	< 1	2.1	< 1	0.5	< 0.1	53	< 1	< 1	0.47 J
MN796	1/30/04		23	190	< 1	< 1	< 1	< 1	3.7	< 0.1	91	< 1	< 1	1.1
MN797	1/31/04		< 5	91	< 1	< 1	< 1	< 1	0.79	< 0.1	32	< 1	< 1	< 1
MN811	2/6/04		27	120	< 1	< 1	< 1	< 1	2.2 J	< 0.1	54	< 1	< 1	0.66 J
MN820	2/6/04		53	200	< 1	< 1	< 1	< 1	1.4 J	< 0.1	110	< 1	< 1	1.5
MN823	1/30/04		8.9	82	< 1	< 1	< 1	< 1	1.6	< 0.1	37	< 1	< 1	0.41 J
MN829	1/30/04		8.3	61	< 1	< 1	< 1	< 1	0.35	< 0.1	50	< 1	< 1	0.11 J
ME547	1/31/04		< 5	69	< 1	< 1	< 1	< 1	0.64	< 0.1	30	< 1	< 1	0.28 J
ME566	1/31/04		< 5	60	< 1	< 1	< 1	< 1	0.63	< 0.1	27	< 1	< 1	0.24 J
ME567	1/31/04		12	60	< 1	< 1	< 1	< 1	0.58	< 0.1	29	< 1	< 1	0.29 J
ME573	1/30/04		12	68	< 1	< 1	< 1	< 1	0.58	< 0.1	27	< 1	< 1	0.55 J
ME574	1/30/04		22	71	< 1	< 1	< 1	< 1	0.58	< 0.1	32	< 1	< 1	0.33 J
ME584	1/30/04		16	110	< 1	< 1	< 1	< 1	1.1	< 0.1	45	< 1	< 1	0.54 J
ME598	1/30/04		8.9	73	< 1	< 1	< 1	< 1	0.64	< 0.1	29	< 1	< 1	0.25 J
ME606	1/30/04		5.6	67	< 1	< 1	< 1	< 1	0.47	< 0.1	28	< 1	< 1	0.26 J
ME619	1/30/04		10	90	< 1	< 1	< 1	< 1	0.76	< 0.1	34	< 1	< 1	0.33 J
ME625	1/30/04		23	77	< 1	< 1	< 1	< 1	0.92	< 0.1	33	< 1	< 1	0.32 J

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUNDS
AND GENERAL WATER QUALITY PARAMETERS
RESIDENTIAL WELL LOCATIONS
HILLCREST AND NORTH SHORE SUBDIVISIONS
WAUCONDA, ILLINOIS

			Chemical Oxygen Demand	Chloride	Chloroethane	1,1-Dichloroethane	*cis*-1,2-Dichloroethene	1,2-Dichloropropane	Nitrogen, as Ammonia	Nitrogen, Nitrate	Sodium, Total	Tetrachloroethene	Toluene	Vinyl chloride
	Federal MCL		–	250 *	–	–	70	5	–	10	–	5	1000	2
ME625	1/30/04	D	20	78	< 1	< 1	< 1	< 1	0.89	< 0.1	33	< 1	< 1	0.35 J
ME631	1/30/04		9.5	71	< 1	< 1	< 1	< 1	0.83	< 0.1	27	< 1	< 1	0.17 J
ME644	1/30/04		13	99	< 1	< 1	< 1	< 1	1.1	< 0.1	39	< 1	< 1	0.52 J
ME652	1/30/04		< 5	58	< 1	< 1	< 1	< 1	0.63	< 0.1	24	< 1	< 1	0.26 J
ME656	1/30/04		16	120	< 1	< 1	< 1	< 1	1.7	< 0.1	52	< 1	< 1	0.59 J
ME659	1/31/04		15	91	< 1	< 1	< 1	< 1	1.5	< 0.1	42	< 1	< 1	0.55 J
ME674	1/31/04		21	120	< 1	< 1	< 1	< 1	< 0.2	< 0.1	340	< 1	< 1	0.75 J
ME690	1/31/04		110	120	< 1	< 1	< 1	< 1	2.5 J	< 0.1 UJ	59	< 1	< 1	0.87 J
ME728	1/31/04		17	120	< 1	< 1	< 1	< 1	2.3	< 0.1	54	< 1	< 1	0.7 J
ME729	1/31/04		6.6	93	< 1	< 1	< 1	< 1	1.3	< 0.1	40	< 1	< 1	0.44 J
ME736	1/30/04		7.8	80	< 1	< 1	< 1	< 1	1.1	< 0.1	34	< 1	< 1	0.42 J
ME740	1/31/04		7.2	57	< 1	< 1	< 1	< 1	1.1 J	< 0.1 UJ	25	< 1	< 1	0.2 J
ME751	1/30/04		32	68	< 1	< 1	< 1	< 1	1.1	< 0.1	28	< 1	< 1	0.32 J
WN515	1/30/04		< 5	24	< 1	< 1	< 1	< 1	1	< 0.1	18	< 1	< 1	< 1
WN563	1/30/04		9.5	22	< 1	< 1	< 1	< 1	0.46	< 0.1	19	< 1	< 1	< 1
WN575	1/31/04		10	22	< 1	< 1	< 1	< 1	0.33	< 0.1	21	< 1	< 1	0.4 J
WN583	2/6/04		7.9	32	< 1	< 1	< 1	< 1	2.4 J	< 0.1	20	< 1	< 1	< 1
WN601	2/6/04		20	65	< 1	< 1	< 1	< 1	0.53 J	< 0.1	32	0.11 J	< 1	0.3 J
WN611	1/31/04		12	39	< 1	< 1	< 1	< 1	0.48	< 0.1	57	< 1	< 1	< 1
WN611	1/31/04	D	< 5	42	< 1	< 1	< 1	< 1	0.52	< 0.1	57	< 1	< 1	< 1
WN617	1/31/04		12	81	< 1	< 1	< 1	< 1	0.91 J	< 0.1 UJ	38	< 1	< 1	0.37 J
WN621	2/6/04		13	82	< 1	< 1	< 1	< 1	0.81 J	< 0.1	35	< 1	1.2	0.28 J
WN626	1/31/04		5.5	49	< 1	< 1	< 1	< 1	0.37	< 0.1	23	< 1	< 1	< 1
WN641	1/31/04		32	110	< 1	< 1	0.14 J	< 1	5.6 J	< 0.1 UJ	63	< 1	< 1	0.7 J
WN649	1/31/04		7.8	100	< 1	< 1	< 1	< 1	1.2 J	< 0.1 UJ	49	< 1	< 1	0.29 J
WN652	1/31/04		13	110	< 1	< 1	< 1	< 1	1.2 J	< 0.1 UJ	44	< 1	< 1	0.35 J
WN657	1/31/04		8.9	120	< 1	< 1	< 1	< 1	1.1	< 0.1	82	< 1	< 1	0.49 J
WN663	1/31/04		8.3	110	< 1	< 1	< 1	< 1	1.5 J	< 0.1 UJ	48	< 1	< 1	0.57 J
WN666	1/31/04		16	84	< 1	< 1	< 1	< 1	0.8 J	< 0.1 UJ	37	< 1	< 1	0.33 J
WN666	1/31/04	D	< 5	88	< 1	< 1	< 1	< 1	0.87 J	< 0.1 UJ	37	< 1	< 1	0.34 J
WN670	1/31/04		< 5	250	< 1	< 1	< 1	< 1	0.27	< 0.1	110	< 1	< 1	< 1
WN682	1/31/04		6.6	110	< 1	< 1	< 1	< 1	0.85 J	< 0.1 UJ	42	< 1	< 1	0.3 J
WN682	1/31/04	D	14	100	< 1	< 1	< 1	< 1	0.96 J	< 0.1 UJ	41	< 1	< 1	0.34 J
WN703	1/30/04		19	140	< 1	< 1	< 1	< 1	2.8	< 0.1	93	< 1	< 1	0.64 J
WN712	1/30/04		21	130	< 1	< 1	< 1	< 1	1.8	< 0.1	55	< 1	< 1	0.45 J
WN715	1/31/04		14	130	< 1	< 1	< 1	< 1	5.5 J	< 0.1 UJ	130	< 1	< 1	0.85 J
WN726	1/31/04		18	110	< 1	< 1	< 1	< 1	2.6 J	< 0.1 UJ	55	< 1	< 1	0.6 J
WN733	1/31/04		20	110	< 1	< 1	< 1	< 1	2.2	< 0.1	49	< 1	< 1	< 1
WN733	1/31/04	D	13	100	< 1	< 1	0.85 J	< 1	1.9	< 0.1	50	< 1	< 1	0.7 J
WN734	1/31/04		16	130	< 1	< 1	< 1	< 1	2.4 J	< 0.1 UJ	62	< 1	< 1	0.9 J
WN747	1/30/04		17	22	< 1	< 1	< 1	< 1	0.46	< 0.1	5.1	< 1	< 1	< 1
WN747	1/30/04	D	19	22	< 1	< 1	< 1	< 1	0.53	< 0.1	5.1	< 1	< 1	< 1
WN754	1/30/04		22	150	< 1	< 1	< 1	< 1	2.7	< 0.1	66	< 1	< 1	0.73 J
WN769	1/30/04		6.7	86	< 1	< 1	< 1	< 1	0.7	< 0.1	20	< 1	< 1	0.15 J
WN772	1/31/04		32	120	< 1	< 1	< 1	< 1	2.5 J	< 0.1 UJ	58	< 1	< 1	0.49 J
WN777	2/6/04		22	94	< 1	< 1	0.89 J	< 1	2 J	< 0.1	47	< 1	< 1	0.38 J
WN777	2/6/04	D	27	97	< 1	< 1	1.1	< 1	8.8 J	< 0.1	46	< 1	< 1	0.36 J
WN780	2/1/04		12	56	< 1	< 1	< 1	< 1	0.92 J	< 0.1 UJ	23	< 1	< 1	0.23 J

**SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUNDS
AND GENERAL WATER QUALITY PARAMETERS
RESIDENTIAL WELL LOCATIONS
HILLCREST AND NORTH SHORE SUBDIVISIONS
WAUCONDA, ILLINOIS**

			Chemical Oxygen Demand	Chloride	Chloroethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	1,2-Dichloropropane	Nitrogen, as Ammonia	Nitrogen, Nitrate	Sodium, Total	Tetrachloroethene	Toluene	Vinyl chloride
Federal MCL			–	250 *	–	–	70	5	–	10	–	5	1000	2
WN781	1/31/04		25	150	< 1	< 1	1.3	< 1	17 J	< 0.1 UJ	85	< 1	< 1	0.64 J
WN791	1/31/04		< 5	340 J	< 1	< 1	< 1	< 1	0.29 J	< 0.1 UJ	82	< 1	< 1	< 1
WN791	1/31/04	D	9.4	500 J	< 1	< 1	< 1	< 1	0.27 J	< 0.1 UJ	80	< 1	< 1	< 1
WN801	1/30/04		6.1	54	< 1	< 1	< 1	< 1	0.38	< 0.1	20	< 1	< 1	< 1
North Shore Subdivision														
NS116	1/30/04		18	120	< 1	< 1	< 1	< 1	3.9	< 0.1	70	< 1	< 1	0.88 J
SN620	1/31/04		14	120	< 1	< 1	< 1	< 1	0.24	< 0.1	340 J	< 1	< 1	1.5

Notes:

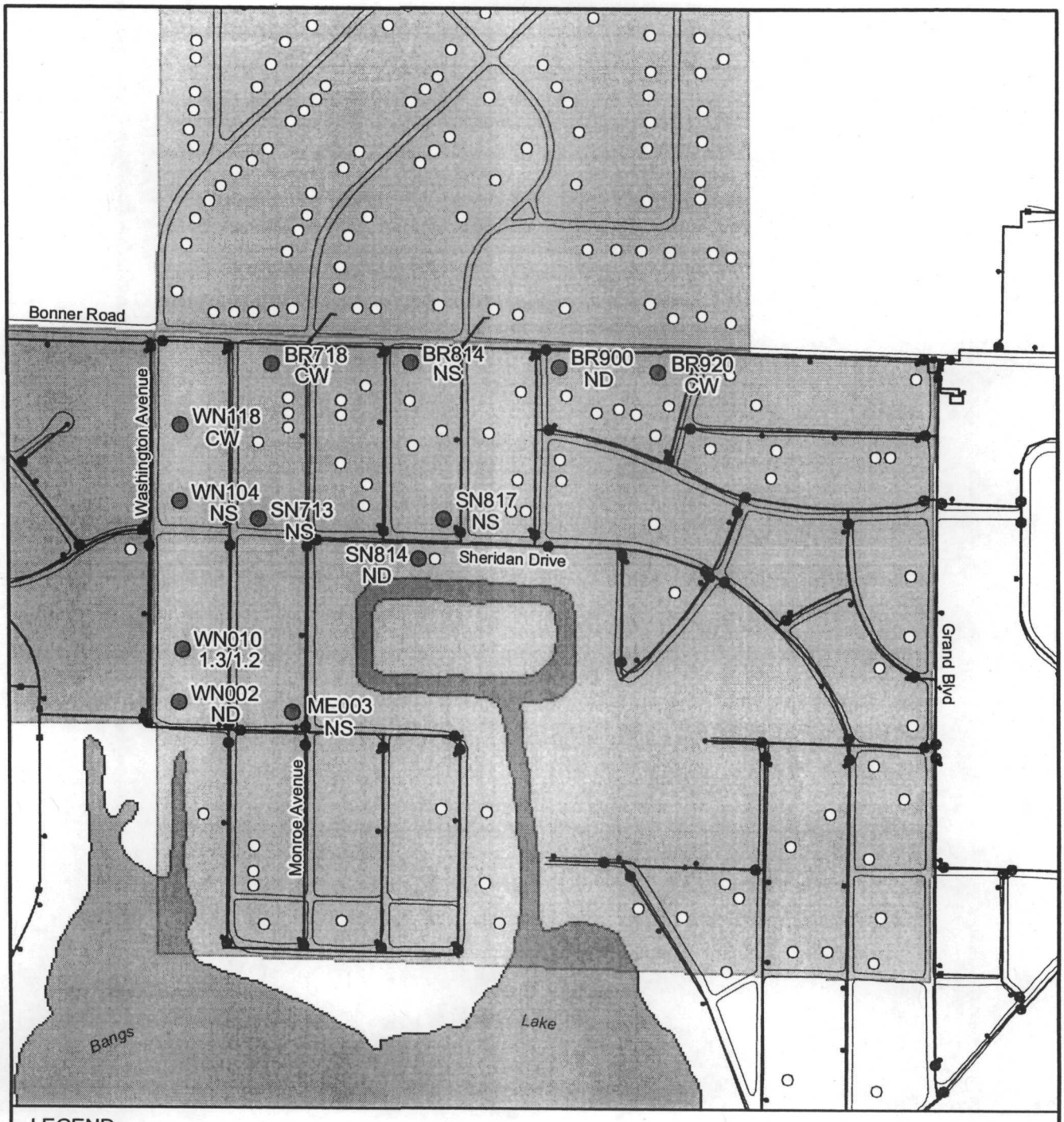
– Not Established

* Secondary Drinking Water Standard

D Duplicate

J Estimated

UJ The analyte was not detected. The associated value is the quantitation limit.



LEGEND

●	Sampling Locations
○	Residential Well Locations
1.3	Vinyl chloride concentration (ug/L)
1.3/1.2	Duplicate result
ND	Not detected
NS	Not sampled (no response from resident)
CW	Connected to city water (no sample collected)
—	Water Mains

NEIGHBORHOODS

Hillcrest

North Shore

Lakeview Villa

N

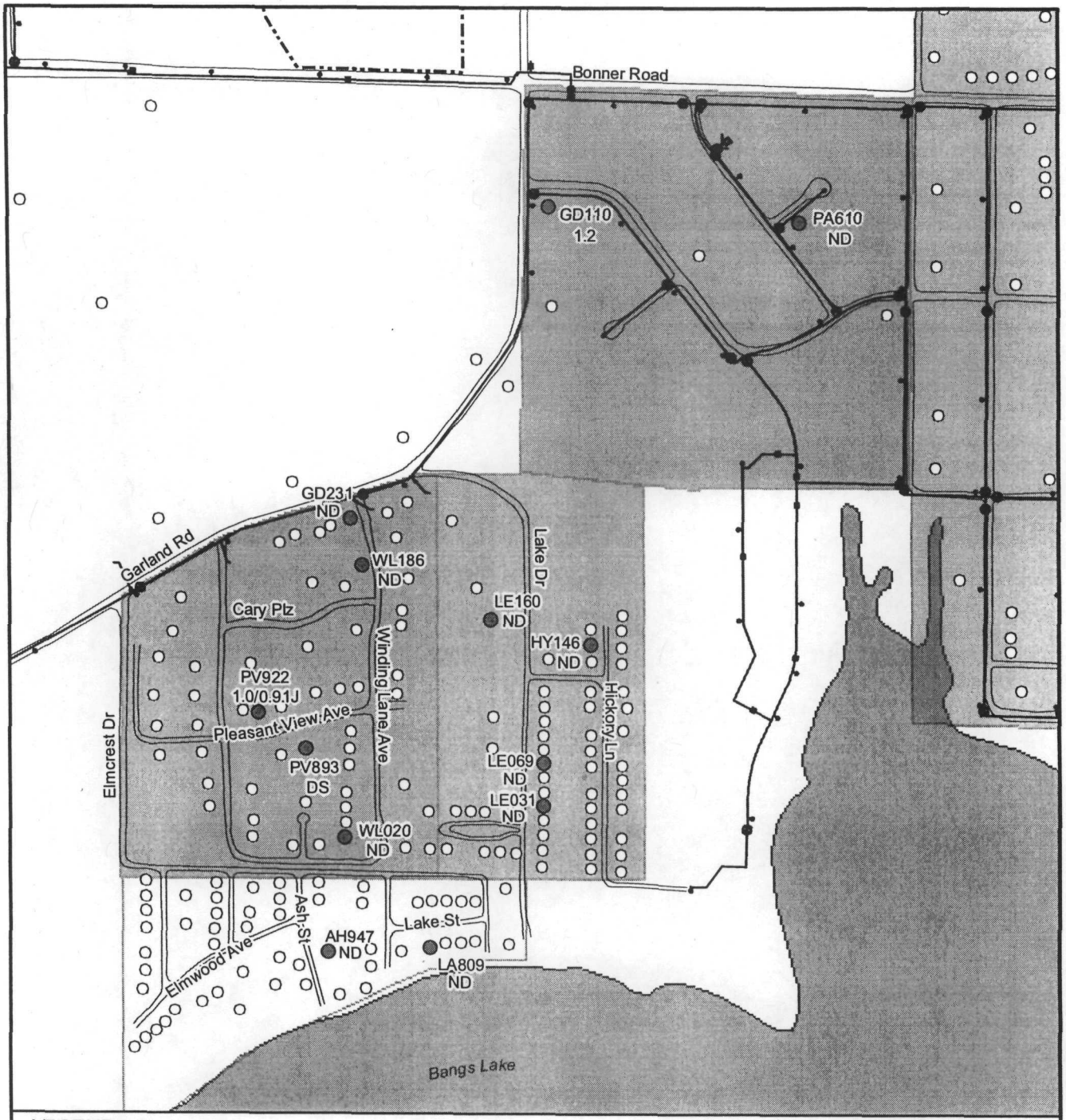
0 250 500

Feet

figure 3.1

VINYL CHLORIDE CONCENTRATIONS
(JUNE 2004)
LAKEVIEW VILLA SUBDIVISION
Wauconda, Illinois

1449-70(082)GIS-SP002 JULY 16/2004



LEGEND

●	Sampling Locations
○	Residential Well Locations
1.2	Vinyl chloride concentration (ug/L)
1.0/0.91J	Duplicate result
J	Estimated
ND	Not detected
DS	Declined sampling
——	Water Mains

NEIGHBORHOODS

- Hillcrest
- Lakeview Villa
- Elmcrest
- North Shore
- Wellsmere Heights
- Spencer's Highlands

N

0 250 500

Feet

figure 3.2

VINYL CHLORIDE CONCENTRATIONS
(JUNE 2004)
NORTH SHORE, WELLSMERE HEIGHTS,
SPENCER'S HIGHLANDS, AND
ELMCREST SUBDIVISIONS
Wauconda, Illinois

1449-70(082)GIS-SP003 JULY 16/2004

ATTACHMENT 5

(Newspaper Articles)

The Dollar Stretcher

panies. There is a small charge on each monthly bill that goes towards these services. They will advise you on specifics for your apartment. Also, they often will wrap your hot water heater, insulate a window or two, install a door sweep, and give you a fluorescent light bulb. By having both gas and electric energy audits, you can learn from two different perspectives, and get twice the energy conservation stuff. Don't forget to stock up on a few fluorescent bulbs when they are on sale. They last much longer and use about half of the energy of regular bulbs.

Seth

Tupperware Alternative

Tupperware has a line of products that help keep fresh produce longer. At first, I thought these items were somewhat pricey, but shortly after purchasing one of these containers, I purchased a head of romaine lettuce from the grocery store. I then put the lettuce in the container, used it once and forgot about it. That lettuce was still fresh and usable four weeks later when I rediscovered it. I was convinced.

D in New Mexico

Keep Air ... Out

Air and moistu... ...eggies and dry as ...re moisture. ... n.

L...

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

EPA Begins Review of Wauconda Sand and Gravel Superfund Site

Wauconda, Illinois

U.S. Environmental Protection Agency is reviewing the Wauconda Sand and Gravel Superfund site to ensure the cleanup continues to protect human health and the environment. Superfund law requires five-year reviews where hazardous waste remains managed on-site. Cleanup of the Wauconda site included:

- Installation of a leachate collection system
- Installation of a perimeter fence to prevent access to the site
- Upgrade of the existing landfill cap
- Upgrade of monitoring well network
- Ground-water monitoring
- Leachate monitoring
- Surface water monitoring

Site-related documents are available for viewing at:

Wauconda Area Library, Reference Desk
801 N. Main St.

Or

EPA Region 5 Records Center, Seventh Floor
77 W. Jackson Blvd.
Chicago, IL

For more information on the review process please contact:

Mike Joyce
EPA Community Involvement Coordinator
(312) 353-5546
(800) 621-8431, 9 a.m. – 4:30 p.m. weekdays
joyce.mike@epa.gov

The Dollar Stretcher

We will ... the end ... weeks. W... York an... Would it ... nace alto... to a lo... temperat... ture should we use? Also, are ... should do to safeguard our hon... ideas.

Jon

Safeguard Y...

To safeguard your home, leav... ing outside lights if possible... your typical pattern of activity... could even put a radio or T... period each day. If possible, h... stop by and "disturb" some... bush, make tracks in the s... change the timers, or move a ... you might see if your local ... vacation checks of ho...

A

Turn Furnace Do...

Do not turn off your furnace ... cold. Otherwise, you are lik... frozen mess when water pi... experie...

Instead, turn your heat do... and turn off your water hea... area which never goes belo... slightly lower the setting or ... can do this because it will n... in warme...

It can be useful to invest in ... turns lights on and off at ran... looks lived in. In the resort ... live full-time, their neighb... their unused driveways wi... might have neighbors who ... make your house l...

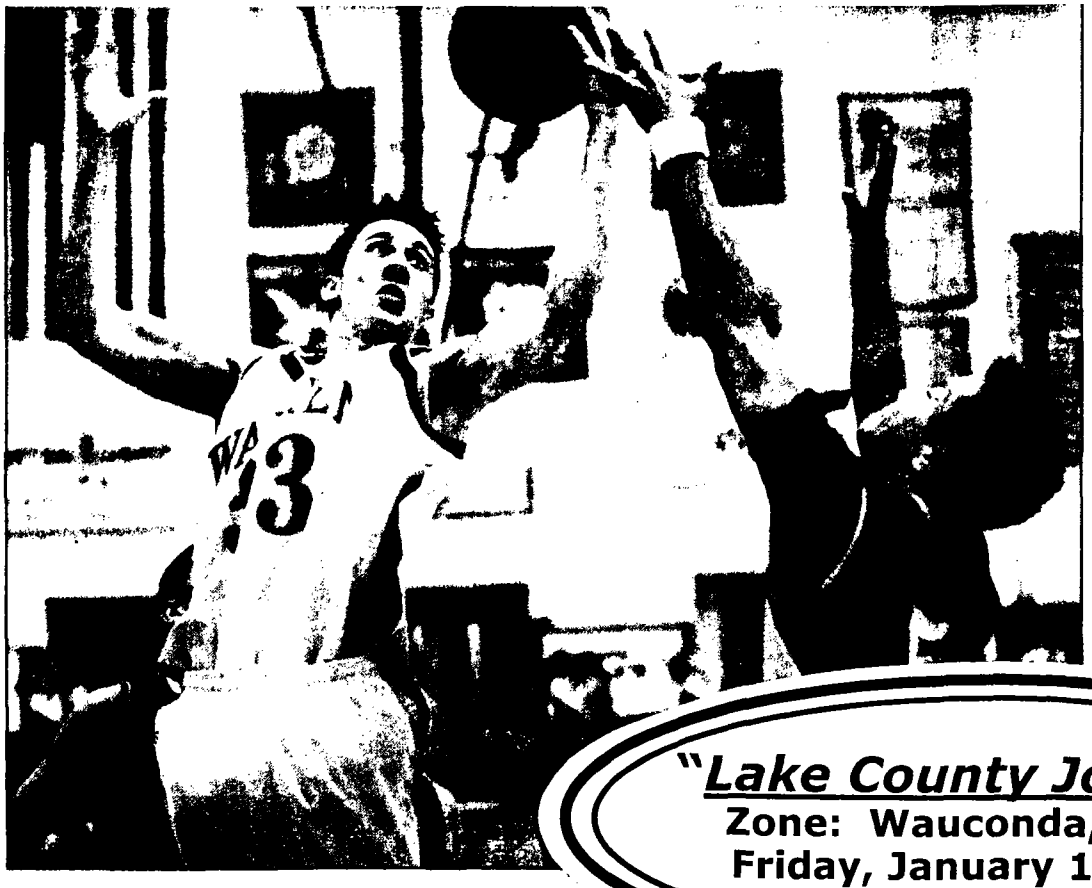
Barba...

Open Doors U...

The main thing with a hom... the pipes from freezing. Tall... Leave your furnace on, but a... all of the doors under each ... there is in the house will cir... keep the pipes warm. If the t... have a neighbor go by and tu... slow drip. If the temperature ... home, have the neighbor t... water bill will increase slightl... compared to what frozen...

Miche...

For a sample copy of The Dollar St... Dollar Stretcher Sample, 6695 Cortez Roa...



"Lake County Journals"
Zone: Wauconda, Illinois
Friday, January 19, 2007
Page A42

Post player Matt Mose of Warren rebounds the ball against Pa... match-up against Stevenson on Jan. 12. Warren won over Stevenson 46-3...

...Grant cap... seventh-st... conferenc...

Coach: many Bull... season with 20 or...

By STEVE PETERSON
speterson@nwnewsgroup.com

Grant High's wrestling team took care of business in the North Suburban Conference Prairie Division, beating Round ...50-10 in a dual meet.

...gs, fresh off a ...t title, con... ...nly one ...hard ..., it ina... ...rban ...nd only ...day's NSC-Prairie match-up with the Round Lake Panthers seems to back up that sentiment. Typically one of the conference powers, Round Lake suffered a tough 40-point loss to the Bulldogs.

When it was all said and done, Grant finished off the conference season at 6-0, good for its seventh straight conference title.

> "After the loss to G... wanted to crawl ... the mat. But now ... we're peaking and ... surprise at confe...
>
> **John Jobst**
> Round Lake wrestling

Contested matches included some falls by Grant wrestlers as the Bulldogs continue to have many wrestlers with more than 20 wins, coach Ryan Geist said.

Danny and Sammy Deligio earned wins for Grant at 103, and 112, beating Round Lake's Franky Contraras and Alex Villa in falls, in 3:52 and 2:51.

Dillon Pousson earned a win for Round Lake Panthers at 119, with a 2-1 win over Dominick Deligio. The other Round Lake wins came in the upper weights. Chris Larsen earned the Panthers' other win for the evening, a 17-6 win over Dave Monroy at 215 and Brandon

Cartw... at hea... Lee... techni... Ramr... Izz... his st... cal fa... Hoffm... At... earne...

Roun...
Ro... Jobst ... did an... back, ... 30-21 ... Panth... quad ...

and h... ence," ... Aft... had ... Lake ... over ... to Di... after ... also ... vived ... 189, a... lead a... La... one-p... Frem... only t... Ro... recor... have ... seaso...

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

SR-6J

January 8, 2007

Eric Runkel
Illinois EPA - DLPC
2200 Churchill Road
Springfield, Illinois 62706

Re: Notification of Five Year Review Start
for Wauconda Sand & Gravel Landfill

Dear Mr. Runkel:

This letter is to notify you that U.S. EPA has begun the process of the Five Year Review for the Wauconda Sand & Gravel Landfill in Wauconda, Illinois. A statutory Five Year Review for the Site will be conducted as required by Section 121 of CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

The Five Year Review for the Wauconda Sand & Gravel Landfill Site is due on August 23, 2007. We are providing you this notification so that U.S. EPA and the Illinois Environmental Protection Agency can begin the necessary coordination activities. A site inspection will be scheduled, and I will contact you regarding this event.

Please feel free to contact me at (312) 353-1621 should you have any questions or concerns related to this five year review.

Sincerely,

Lolita Hill
Remedial Project Manager

cc: Stephanie Linebaugh
Mike Joyce, OPA
Mark Koller, ORC

ATTACHMENT 6

(Site Groundwater Monitoring Data)

TABLE 4.2

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUND SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	1,1-Dichloroethane ug/L	1,2-Dichloroethane ug/L	1,2-Dichloroethene, Total ug/L	1,2-Dichloropropane ug/L	Acetone ug/L	Benzene ug/L	Carbon disulfide ug/L	Chloroethane ug/L	Chloroform ug/L	Ethylbenzene ug/L	Methyl ethyl ketone ug/L	Methylene chloride ug/L	Styrene ug/L	Tetrachloroethene ug/L	Toluene ug/L	Trichloroethene ug/L	Vinyl chloride ug/L	Xylenes, Total ug/L
Lower Aquifer Wells																				
G311B	8/14/02		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	0.45 J	< 1
OW409	8/13/02		< 1	< 1	< 1	< 1	1.8 J	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
OW410	8/13/02		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
OW417	8/12/02		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
OW421	8/13/02		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	0.86 J	< 1
Upper Aquifer Wells																				
G305B	8/14/02		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	1.7	< 1
G305B	8/14/02	D	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	1.5	< 1
OW403	8/14/02		< 1	< 1	0.9 J	< 1	1.2 J	< 1	< 1	0.38 J	< 1	< 1	< 10	< 1	< 1	< 1	< 1	0.48 J	< 1	1.2
OW405	8/13/02		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
OW406	8/13/02		0.31 J	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
OW407	8/14/02		< 1	< 1	< 1	< 1	1.6 J	< 1	< 1	< 1	< 1	< 1	0.89 J	< 1	< 1	< 1	< 1	< 1	< 1	0.67 J
OW408	8/14/02		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
OW412	8/14/02		1	< 1	2.8	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	7.8	< 1
OW413	8/15/02		0.3 J	< 1	< 1	< 1	< 10	4.4	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
OW413	8/15/02	D	0.33 J	< 1	< 1	< 1	< 10	4.5	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
OW414	8/15/02		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
OW416	8/12/02		< 1	< 1	1.6	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	2.4	< 1
OW416	8/12/02	D	< 1	< 1	1.5	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	2.3	< 1
OW420	8/13/02		10	1.2	45	1.7	1.5 J	0.84 J	< 1.2	0.97 J	< 1.2	< 1.2	< 12	< 1.2	< 1.2	0.63 J	< 1.2	4.6	4.4	< 1.2
Residential Wells																				
G202	8/12/02		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
G203B	8/12/02		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
G215	8/12/02		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
G224	11/29/01	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	1.4	< 1
G224	1/2/02	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	1.2	< 1	< 1	< 1	< 1	1.2	< 1
G224	2/1/02	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
G224	3/1/02	M	< 1	< 1	< 1	< 1	0.61 J	0.34 J	< 1	< 1	< 1	0.26 J	< 10	< 1	< 1	< 1	1	< 1	1.1	1
G224	3/21/02	M	< 1	< 1	< 1	< 1	0.96 J	< 1	0.32 J	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	1.7	< 1
G224	5/1/02	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	0.23 J	< 10	< 1	0.51 J	< 1	< 1	< 1	1.9	< 1
G224	6/27/02	M	< 1	< 1	< 1	< 1	< 10 UJ	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	1.6	< 1
G224	7/25/02	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	1.6	< 1
G224	8/30/02	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	1.6	< 1

TABLE 4.2

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUND SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	1,1-Dichloroethane ug/L	1,2-Dichloroethane ug/L	1,2-Dichloroethene, Total ug/L	1,2-Dichloropropane ug/L	Acetone ug/L	Benzene ug/L	Carbon disulfide ug/L	Chloroethane ug/L	Chloroform ug/L	Ethylbenzene ug/L	Methyl ethyl ketone ug/L	Methylene chloride ug/L	Styrene ug/L	Tetrachloroethene ug/L	Toluene ug/L	Trichloroethene ug/L	Vinyl chloride ug/L	Xylenes, Total ug/L
G224	9/30/02	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	1.3	< 1
G224	10/29/02	M	< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	21	< 1	< 10	5.3	< 1	< 1	< 1	< 1	1.7	< 1
G263	8/12/02		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
KAZIMOR	8/12/02		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1
MCL				5	70	5		5				0.7		5		5	1000	5	2	10000
AO				2.5	35	2.5		2.5				0.35		2.5		2.5	500	2.5	1	5000

Notes:
MCL - Maximum Contaminant Level
AO - Administrative Order (AO) Action Level for residential wells
D - Duplicate sample
R - Resample
M - Monthly sample
J - The result is considered an estimated quantity
U - The analyte is non-detect with the associated value being the quantitation limit.
UJ - The analyte was checked for, but not detected. The associated value is an estimated quantitation limit.
Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.3

SUMMARY OF DETECTED METALS SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	Arsenic, Dissolved ug/L	Arsenic ug/L	Barium ug/L	Cadmium ug/L	Calcium ug/L	Chromium ug/L	Copper ug/L	Iron ug/L	Lead ug/L	Magnesium ug/L	Manganese ug/L	Potassium ug/L	Sodium ug/L	Zinc ug/L
Lower Aquifer Wells																
G311B	8/14/02			< 5	191	< 1	110000	< 5	< 10	3640	< 3	51800	197	9580	38400	< 20
OW409	8/13/02			< 5	181	< 1	89800	5.6	< 10	1770	< 3	54100	204	6500	116000	65.7
OW410	8/13/02			< 5	128	< 1	104000	< 5	< 10	301	< 3	59100	17.5	6120	63000	133
OW417	8/12/02			< 5	124	< 1	104000	6.5	< 10	2830	< 3	62700	75.1	< 5000	59900	< 20
OW421	8/13/02			< 5	164	1.3	65300	< 5	< 10	10200	20.3	66000	120	11900	168000	1890
Upper Aquifer Wells																
G305B	8/14/02			< 5	46.4	< 1	99100	< 5	< 10	2380	< 3	46200	68.7	< 5000	9000	< 20
G305B	8/14/02	D		< 5	45.7	< 1	97500	< 5	< 10	2360	< 3	45500	67.8	< 5000	9080	< 20
OW403	8/14/02			< 5	117	< 1	137000	< 5	< 10	3670	< 3	50600	826	8960	69500	< 20
OW405	8/13/02			< 5	58.2	< 1	89500	< 5	< 10	2430	< 3	55500	55	< 5000	13200	< 20
OW406	8/13/02			< 5	655	< 1	83400	7	< 10	2490	< 3	74500	23.7	119000	736000	< 20
OW407	8/14/02			< 5	149	< 1	153000	< 5	< 10	3920	3.9	< 5000	16.4	28600	177000	343
OW408	8/14/02			< 5	762	< 1	88000	< 5	< 10	5340	< 3	76500	37.3	103000	478000	< 20
OW412	8/14/02			< 5	56.4	< 1	139000	< 5	< 10	4360	< 3	62200	158	< 5000	81900	< 20
OW413	3/21/02	S	51.8 J	48.3												
OW413	8/15/02			47.4	330	< 1	50500	< 5	< 10	1270	< 3	46500	< 10	120000	469000	< 20
OW413	8/15/02	D		46.8	331	< 1	49800	< 5	< 10	1270	< 3	46700	< 10	121000	472000	< 20
OW414	8/15/02			< 5	100	< 1	27700	< 5	< 10	< 100	< 3	22500	< 10	< 5000	38100	< 20
OW416	8/12/02			< 5	167	< 1	152000	< 5	< 10	5450	< 3	76200	189	12300	62900	< 20
OW416	8/12/02	D		< 5	170	< 1	154000	< 5	< 10	5540	< 3	77200	191	12600	63800	< 20
OW420	8/13/02			< 5	142	< 1	202000	< 5	< 10	1550	< 3	85000	2430	< 5000	99600	< 20
Residential Wells																
G202	8/12/02			< 5	168	< 1	126000	< 5	28.2	2120	< 3	70900	80.8	5770	184000	49.7
G202	9/5/02	R													177000	
G203B	8/12/02			< 5	167	< 1	88700	< 5	< 10	1130	< 3	72000	< 10	< 5000	60800	127

TABLE 4.3

SUMMARY OF DETECTED METALS SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	Arsenic, Dissolved ug/L	Arsenic ug/L	Barium ug/L	Cadmium ug/L	Calcium ug/L	Chromium ug/L	Copper ug/L	Iron ug/L	Lead ug/L	Magnesium ug/L	Manganese ug/L	Potassium ug/L	Sodium ug/L	Zinc ug/L
G215	8/12/02			< 5	301	< 1	125000	< 5	168	2390	68.6	71700	50.7	13200	188000	111
G215	9/5/02	R													185000	
G263	8/12/02			< 5	277	< 1	117000	< 5	42.8	2880	< 3	83500	28.5	8460	165000	34.8
G263	9/5/02	R													154000	
KAZIMOR	8/12/02			< 5	108	< 1	116000	< 5	23.2	5990	< 3	72400	63.2	< 5000	25600	< 20
MCL			50													
AO			25												100000	

Notes:
MCL - Maximum Contaminant Level
AO - Administrative Order (AO) Action Level for residential wells
D - Duplicate sample
R - Resample
S - Semi-annual sampling for arsenic
J - The result is considered an estimated quantity
UJ - The analyte was checked for, but not detected. The associated value is an estimated quantitation limit.
Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.4

SUMMARY OF DETECTED GENERAL WATER QUALITY SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	Alkalinity, bicarbonate, as CaCO3 mg/L	Alkalinity, carbonate, as CaCO3 mg/L	Alkalinity, Total mg/L	Total Organic Carbon mg/L	Chemical Oxygen Demand mg/L	Chloride mg/L	Nitrogen, as Ammonia mg/L	Nitrogen, Nitrate mg/L	Total Dissolved Solids mg/L	Sulfate mg/L
Lower Aquifer Wells												
G311B	8/14/02		430	< 5	430	4	< 10	91.7	6.8	< 0.1	650	57.2
OW409	8/13/02		440	< 5	440	10	26.9	184	3.7	0.04 J	720	18.1
OW410	8/13/02		440	< 5	440	4	24.5	102	< 1	0.06 J	660	39.1
OW417	8/12/02		470	< 5	470	6	34.4	143	< 1	0.015 J	760	23.3
OW421	8/13/02		490	< 5	490	14	46.8	275	3.9	0.1	920	16
Upper Aquifer Wells												
G305B	8/14/02		360	< 5	360	2	14.5	30.9	< 1	< 0.1	520	79.4
G305B	8/14/02	D	360	< 5	360	2	< 10	31	< 1	< 0.1	540	80.2
OW403	8/14/02		500	< 5	500	4	24.5	157	5	< 0.1	840	49.6
OW405	8/13/02		340	< 5	340	1	< 10	52.1	< 1	< 0.1	490	65.9
OW406	8/13/02		1300	< 5	1300	75	265	1030	130	< 0.1	2400	< 5
OW407	8/14/02		< 5	140	430	22	64.1	331	27	< 0.1	1000	< 5
OW408	8/14/02		1200	< 5	1200	49	158	592	82	< 0.1	2000	< 5
OW412	8/14/02		520	< 5	520	3	44.3	178	1	< 0.1	940	67.3
OW413	8/15/02		1100	< 5	1100	54	176	664	95	< 0.1	1800	< 5
OW413	8/15/02	D	1100	< 5	1100	54	181	661	92	< 0.1	1800	< 5
OW414	8/15/02		200	12	210	4	14.6	48.5	2.9	< 0.1	280	< 5
OW416	8/12/02		610	< 5	610	4	36.9	140	5.8	0.011 J	890	67.5
OW416	8/12/02	D	610	< 5	610	4	29.4	140	5.8	0.014 J	880	67.6
OW420	8/13/02		750	< 5	750	8	17	197	5	3.3	1100	99.3
Residential Wells												
G202	8/12/02		570	< 5	570	13	56.7	328	2.4	< 0.1	1100	33.4
G202	9/5/02	R						315				

TABLE 4.4

SUMMARY OF DETECTED GENERAL WATER QUALITY SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	Alkalinity, bicarbonate, as CaCO3 mg/L	Alkalinity, carbonate, as CaCO3 mg/L	Alkalinity, Total mg/L	Total Organic Carbon mg/L	Chemical Oxygen Demand mg/L	Chloride mg/L	Nitrogen, as Ammonia mg/L	Nitrogen, Nitrate mg/L	Total Dissolved Solids mg/L	Sulfate mg/L
G203B	8/12/02		480	< 5	480	7	34.4	124	< 1	0.0095 J	710	15.6
G215	8/12/02		620	< 5	620	17	64.1	288	12	0.0085 J	1100	30.3
G215	9/5/02	R						318				
G263	8/12/02		610	< 5	610	16	81.5	290	4.5	0.018 J	1100	17.4
G263	9/5/02	R						307				
KAZIMOR	8/12/02		490	< 5	490	7	31.9	98.7	< 1	0.0092 J	720	40.5
MCL												
AO								200				

Notes:
MCL - Maximum Contaminant Level
AO - Administrative Order (AO) Action Level for residential wells
D - Duplicate sample
R - Resample
J - The result is considered an estimated quantity
UJ - The analyte was checked for, but not detected. The associated value is an estimated quantitation limit.
Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.2

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUND SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	1,1-Dichloroethane µg/L	1,2-Dichloroethane µg/L	1,2-Dichloroethene, Total µg/L	1,2-Dichloropropane µg/L	Acetone µg/L	Benzene µg/L	Carbon disulfide µg/L	Chloroethane µg/L	Chloroform µg/L	Chloromethane µg/L	Methyl ethyl ketone µg/L	Methylene chloride µg/L	Tetrachloroethene µg/L	Toluene µg/L	Trichloroethene µg/L
Lower Aquifer Wells																	
OW409	1/13/04		< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW410	1/13/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW417	1/13/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW421	1/13/04		< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
Upper Aquifer Wells																	
G305B	1/14/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
G305B	1/14/04	D	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW403	1/14/04		< 1	< 1	0.82 J	< 1	< 10	0.2 J	< 1	0.52 J	< 1	< 1	< 10	< 1	< 1	< 1	0.93 J
OW404	1/14/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW404	1/14/04	D	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW405	1/13/04		< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1 U	< 1	< 1	< 1
OW406	1/13/04		< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW407	1/13/04		< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW408	1/13/04		< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW412	1/14/04		1.9	0.29 J	5.8	< 1	< 10	0.35 J	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW413	1/13/04		0.32 J	< 1	< 1	< 1	< 10 U	4.5	0.27 J	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW413	1/13/04	D	0.29 J	< 1	< 1	< 1	< 10 U	4.4	0.3 J	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW414	1/13/04		< 1	< 1	< 1	< 1	< 10 U	0.22 J	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW415	1/12/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	0.24 J
OW416	1/14/04		< 1	< 1	1.5	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW418	1/12/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
OW419	1/14/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	25	< 1	< 1	0.41 J	< 1
OW420	1/14/04		6.9	0.88 J	30	2.2	< 10	0.66 J	< 1	1.9	< 1	< 1	< 10	< 1	3.4	< 1	4.2

TABLE 4.2

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUND SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	*Date*	*Notes*	1,1-Dichloroethane µg/L	1,2-Dichloroethane µg/L	1,2-Dichloroethene, Total µg/L	1,2-Dichloropropane µg/L	Acetone µg/L	Benzene µg/L	Carbon disulfide µg/L	Chloroethane µg/L	Chloroform µg/L	Chloromethane µg/L	Methyl ethyl ketone µg/L	Methylene chloride µg/L	*Tetrachloroethene* µg/L	Toluene µg/L	Trichloroethene µg/L
Residential Wells																	
Hedgepath (GD207)	12/3/02	M	< 1	< 1	< 1	< 1	3.2 J	< 1	0.68 J	< 1	2	< 1	0.65 J	< 1 U	< 1	< 1	< 1
Hedgepath (GD207)	1/2/03	M	< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1 U	< 1	< 1	< 1
Hedgepath (GD207)	1/30/03	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
Hedgepath (GD207)	3/7/03	M	< 1	< 1	< 1	< 1	2.7 J	< 1	< 1	< 1	0.37 J	< 1	< 10	0.4 J	< 1	< 1	< 1
Hedgepath (GD207)	3/27/03	M	< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
Hedgepath (GD207)	4/30/03	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
Hedgepath (GD207)	5/29/03	M	< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
Hedgepath (GD207)	6/26/03	M	< 5	< 5	< 5	< 5		< 5		< 10	< 5	< 10		< 10	< 5	< 5	< 5
Hedgepath (GD207)	8/4/03	M	< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
Hedgepath (GD207)	8/29/03	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
Hedgepath (GD207)	10/6/03	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
Hedgepath (GD207)	11/3/03	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
Hedgepath (GD207)	12/1/03	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
Hedgepath (GD207)	1/7/04	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	0.61 J	< 10	< 1	< 1	< 1	< 1
Bermann (GD303)	1/26/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
Kruckenberg (GD347)	1/28/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	0.94 J	< 1	< 1	< 1	< 1
Kruckenberg (GD347)	3/19/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	0.94 J	< 1	< 1	< 1	< 1
Kruckenberg (GD347)	3/19/04	D	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	0.94 J	< 1	< 1	< 1	< 1
Coulter (GD871)	1/26/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
Wallin (GD941)	1/26/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
R. Brown (GD979)	1/26/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1
MCL				5	70	5		5						5	5	1,000	5
AO				2.5	35	2.5		2.5						2.5	2.5	500	2.5

Notes:
MCL - Maximum Contaminant Level
AO - Administrative Order (AO) Action Level for residential wells
D - Duplicate sample
M - Monthly sample
J - The result is considered an estimated quantity
U - The analyte is non-detect with the associated value being the quantitation limit.
UJ - The analyte was checked for, but not detected. The associated value is an estimated quantitation limit.
Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.3

SUMMARY OF DETECTED METALS SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	Aluminum, Total µg/L	Arsenic, Dissolved µg/L	Arsenic, Total µg/L	Barium, Total µg/L	Cadmium, Total µg/L	Calcium, Total µg/L	Chromium, Total µg/L	Copper, Total µg/L	Iron, Total µg/L	Lead, Total µg/L	Magnesium, Total µg/L	Manganese, Total µg/L	Potassium, Total µg/L	Sodium, Total µg/L	Zinc, Total µg/L
Lower Aquifer Wells																	
OW409	1/13/04		< 200		< 5	289	< 1	141000	< 5	< 10	2920	< 3	75000	60.3	13400	225000	< 20
OW410	1/13/04		< 200		< 5	127	< 1	120000	< 5	< 10	3160	< 3	62200	85.6	5120	55100	< 20
OW417	1/13/04		< 200		< 5	125	< 1	116000	< 5	< 10	3140	< 3	69700	70.2	5020	63100	< 20
OW421	1/13/04		< 200		< 5	351	< 1	147000	< 5	< 10	6560	< 3	82100	97.3	15200	205000	285
Upper Aquifer Wells																	
G305B	1/14/04		< 200		< 5	54.8	< 1	112000	< 5	< 10	2700	< 3	51600	80.7	< 5000	14200	< 20
G305B	1/14/04	D	< 200		< 5	53.2	< 1	109000	< 5	< 10	2640	< 3	50200	78.9	< 5000	13900	< 20
OW403	1/14/04		< 200		< 5	118	1.4	140000	< 5	< 10	2440	< 3	48500	898	9910	78400	< 20
OW404	1/14/04		< 200		< 5	55.1	< 1	93700	< 5	< 10	2740	< 3	39500	44.2	< 5000	57200	< 20
OW404	1/14/04	D	< 200		< 5	54.8	< 1	94400	< 5	< 10	2320	< 3	39900	41.3	< 5000	58300	< 20
OW405	1/13/04		< 200		< 5	59.1	< 1	102000	< 5	< 10	1890	< 3	58600	42.5	< 5000	15800	< 20
OW406	1/13/04		374		< 5	501	< 1	77700	5.1	< 10	2870	< 3	72200	30.9	107000	578000	< 20
OW407	1/13/04		< 200		< 5	530	< 1	63700	< 5	< 10	1650	< 3	67500	17.9	107000	686000	< 21.8 U
OW408	1/13/04		< 200		< 5	698	< 1	94600	< 5	< 10	7050	< 3	81900	42.9	98000	444000	< 20
OW412	1/14/04		< 200		< 5	73.8	< 1	179000	< 5	< 10	5980	< 3	78200	210	< 5000	99400	< 20
OW413	3/7/03	S		45.5	46.3												
OW413	1/13/04		< 200		43.6	330	< 1	64400	< 5	< 10	1730	< 3	57500	< 10	123000	453000	< 20
OW413	1/13/04	D	< 200		41.6	317	< 1	62900	< 5	< 10	1410	< 3	54800	10.7	120000	443000	< 78.3 U
OW414	1/13/04		< 200		< 5	142	< 1	34300	6.8	< 10	397	< 3	32900	< 10	7250	71900	< 20
OW415	1/12/04		< 200		< 5	87.4	< 1	105000	< 5	< 10	2630	< 3	71100	61.5	< 5000	10800	< 20
OW416	1/14/04		241		< 5	166	< 1	164000	< 5	< 10	5760	< 3	78400	198	12000	65200	< 20
OW418	1/12/04		< 200		< 5	62.9	< 1	106000	< 5	< 10	1920	< 3	62400	57.7	< 5000	9310	< 20
OW419	1/14/04		< 200		< 5	50.6	< 1	107000	< 5	< 10	2780	< 3	49600	92.1	< 5000	< 5000	107
OW420	1/14/04		< 200		< 5	157	< 1	180000	< 5	< 10	521	< 3	58500	1840	10800	112000	< 20
Residential Wells																	
Bermann (GD303)	1/26/04		< 200		< 5	< 10	< 1	< 5000	< 5	22.8	< 100	< 3	< 5000	< 10	< 5000	246000	93.6
Kruckenberg (GD347)	1/28/04		< 200		< 5	225	< 1	131000	< 5	< 10	4150	< 3	70100	126	8130	95600	< 20
Coulter (GD871)	1/26/04		< 200		< 5	243	< 1	148000	< 5	< 10	17000	< 3	82100	156	5680	126000	< 20
Wallin (GD941)	1/26/04		< 200		< 5	342	< 1	140000	< 5	16.7	2630	5.4	93900	21.7	11700	206000	< 20
R. Brown (GD979)	1/26/04		< 200		< 5	152	< 1	102000	< 5	< 10	10100	< 3	73500	65.3	5000	67100	< 20
MCL				50	50	2000	5		100								
AO				25	25	1000	2.5		50							100,000	

Notes:
MCL - Maximum Contaminant Level
AO - Administrative Order (AO) Action Level for residential wells
D - Duplicate sample
S - Semi-annual sampling for arsenic
J - The result is considered an estimated quantity
UJ - The analyte was checked for, but not detected. The associated value is an estimated quantitation limit.
Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.4

SUMMARY OF DETECTED GENERAL WATER QUALITY SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	Alkalinity, bicarbonate, as CaCO3 mg/L	Alkalinity, carbonate, as CaCO3 mg/L	Alkalinity, Total mg/L	Carbon, Total Organic mg/L	Chemical Oxygen Demand mg/L	Chloride mg/L	Nitrogen, as Ammonia mg/L	Nitrogen, Nitrate mg/L	Nitrogen, Nitrite mg/L	Solids, Total Dissolved mg/L	Sulfate mg/L
Lower Aquifer Wells													
OW409	1/13/04		570	45	610	18	54.6	357	13	< 0.1	< 0.1 UJ	1200	19.4
OW410	1/13/04		390	39	430	4	< 10	115	1.2	< 0.1	< 0.1 UJ	650	32.1
OW417	1/13/04		400	43	450	5	19.1	147	< 1	< 0.1	< 0.1 UJ	690	23.1
OW421	1/13/04		610	< 5	610	14	45.9	309	5.8	< 0.1	< 0.1 UJ	1100	30.4
Upper Aquifer Wells													
G305B	1/14/04		340	6.3 J	350	2	< 10	53.3	< 1	0.02 J	< 0.1	520	76.6
G305B	1/14/04	D	320	22 J	350	2	< 10	55.6	< 1	< 0.1	< 0.1	550	76.4
OW403	1/14/04		400	< 5	400	3	11.1	193	5.2	< 0.1	< 0.1	760	50.5
OW404	1/14/04		240	< 5	240	1	< 10	146	< 1	0.04 J	< 0.1	580	68.9
OW404	1/14/04	D	240	< 5	240	1	< 10	149	< 1	0.03 J	< 0.1	570	70.6
OW405	1/13/04		300	29	320	1	< 10	58.2	< 1	< 0.1	< 0.1 UJ	500	65.9
OW406	1/13/04		1200	10	1200	73	221	902	130	< 0.1	< 2 UJ	2100	< 5
OW407	1/13/04		1000	68	1100	22	199	1010	100	< 0.1	< 2 UJ	2300	< 5
OW408	1/13/04		1200	11	1200	49	146	616	110	< 0.1	< 1 UJ	1700	< 5
OW412	1/14/04		590	12	600	4	15	225	< 1	< 0.1	< 0.5	1000	76.5
OW413	1/13/04		1000	8.3	1000	49	141	625	130	< 0.1	< 1 UJ	1600	< 5
OW413	1/13/04	D	1000	13	1000	48	132	630	130	< 0.1	< 1 UJ	1700	< 5
OW414	1/13/04		190	19	210	6	18.2	97	7.3	< 0.1	< 0.1 UJ	330	< 5
OW415	1/12/04		430	51	480	1	< 10	1.9	< 1	< 0.1	< 0.1	550	59.6
OW416	1/14/04		550	6.9	560	3	< 10	160	5.2	< 0.1	< 0.1	870	68.7
OW418	1/12/04		370	42	410	3	12.1	5.7	< 1	< 0.1	< 0.1	550	86.4
OW419	1/14/04		360	< 5	360	3	< 10	8.8	< 1	0.46	< 0.1	480	85.4
OW420	1/14/04		750	< 5	750	6	15	228	20	4.4	< 0.5	1200	69.9

TABLE 4.4

SUMMARY OF DETECTED GENERAL WATER QUALITY SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	*Date*	*Notes*	Alkalinity, bicarbonate, as CaCO3 mg/L	Alkalinity, carbonate, as CaCO3 mg/L	Alkalinity, Total mg/L	Carbon, Total Organic mg/L	Chemical Oxygen Demand mg/L	Chloride mg/L	Nitrogen, as Ammonia mg/L	Nitrogen, Nitrate mg/L	Nitrogen, Nitrite mg/L	Solids, Total Dissolved mg/L	Sulfate mg/L
Residential Wells													
Bermann (GD303)	1/26/04		380	25	410	5	19.5	106	< 1	< 0.1	< 0.1	630	18.6
Kruckenberg (GD347)	1/28/04		530	< 5	530	9	22.4	169	1.8	< 0.1	< 0.1	850	52.1
Coulter (GD871)	1/26/04		540	< 5	540	11	38.5	290	< 1	< 0.1	< 0.1	920	5.7
Wallin (GD941)	1/26/04		620	< 5	620	20	63	382	7.3	< 0.1	< 0.5	1200	11.4
R. Brown (GD979)	1/26/04		430	31	460	7	22.4	123	1.8	< 0.1	< 0.1	640	29.9
MCL													
AO								200					

Notes:
MCL - Maximum Contaminant Level
AO - Administrative Order (AO) Action Level for residential wells
D - Duplicate sample
J - The result is considered an estimated quantity
UJ - The analyte was checked for, but not detected. The associated value is an estimated quantitation limit.
Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.2

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUND SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	1,1-Dichloroethane µg/L	1,2-Dichloroethane µg/L	1,2-Dichloroethene, Total µg/L	1,2-Dichloropropane µg/L	Acetone µg/L	Benzene µg/L	Carbon disulfide µg/L	Chloroethane µg/L	Chloromethane µg/L	Ethylbenzene µg/L	Methyl ethyl ketone µg/L	Methylene chloride µg/L	Tetrachloroethene µg/L	Toluene µg/L	Trichloroethene µg/L	Vinyl chloride µg/L	Xylenes, Total µg/L
Lower Aquifer Wells																			
OW409	8/18/04		0.34 J	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 1
OW410	8/16/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	0.87 J	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1
OW417	8/17/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1
OW421	8/16/04		< 1	< 1	< 1	< 1	< 10	< 1	0.29 J	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	1.2	< 1
Upper Aquifer Wells																			
G305B	8/17/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	2	< 1
G305B	8/17/04	D	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	2	< 1
OW403	8/17/04		< 1	< 1	< 1	< 1	< 10	< 1 UJ	< 1	< 1	< 1	1.2	0.47 J	< 1	< 1	< 1 UJ	< 1 UJ	< 1	6.3
OW404	8/16/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1
OW405	8/16/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1
OW406	8/18/04		< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	0.24 J	< 1
OW407	8/17/04		< 1	< 1	< 1	< 1	4.5 J	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	0.48 J	0.79 J
OW408	8/16/04		< 1	< 1	< 1	< 1	1.9 J	< 1	< 1	< 1	< 1	< 1	0.5 J	< 1	< 1	< 1	< 1	< 1	< 1
OW412	8/17/04		1.1	< 1	2.9	< 1	< 10	0.38 J	< 1	1.1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	11	< 1
OW413	8/16/04		0.32 J	< 1	< 1	< 1	3.6 J	4.1	0.31 J	< 1	< 1	< 1	< 10	< 1	< 1	0.2 J	< 1	< 1	< 1
OW413	8/16/04	D	0.35 J	< 1	< 1	< 1	2.7 J	4.1	0.78 J	< 1	< 1	< 1	0.92 J	< 1	< 1	0.28 J	< 1	< 1	< 1
OW414	8/17/04		< 1	< 1	< 1	< 1	< 10	0.26 J	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1
OW416	8/16/04		< 1	< 1	1.1	< 1	< 10	< 1	< 1	< 1	1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1
OW416	8/16/04	D	< 1	< 1	1.1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1
OW420	8/16/04		8.2	1.2	32	2.6	< 10	0.44 J	< 1	1.3	< 1	< 1	< 10	< 1	3.8	< 1	4.3	< 1	< 1
Residential Wells																			
BR951 (Kazimor)	8/16/04		< 1	< 1	< 1	< 1	0.85 J	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1
GD065 (Oakley)	8/16/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	0.34 J	< 1	0.42 J	< 1	< 1	< 1	< 1	< 1	< 1
GD207 (Hedgepath)	2/4/04	M	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	1.9	< 1
GD207 (Hedgepath)	3/3/04	M	< 1	< 1	< 1	< 1	1.7	< 1	< 1	< 1	< 1	< 1	< 10	< 1	0.99	< 1	< 1	1.8	< 1
GD207 (Hedgepath)	3/31/04	M	< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	1.8	< 1
GD207 (Hedgepath)	5/3/04	M	< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	1.7	< 1
GD207 (Hedgepath)	6/3/04	M	< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	1.7	< 1
GD207 (Hedgepath)	6/30/04	M	< 1	< 1	< 1	< 1	0.75	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	1.5	< 1
GD207 (Hedgepath)	8/3/04	M	< 1	< 1	< 1	< 1	1.1 J	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	1.9	< 1
GD207 (Hedgepath)	9/7/04	M	< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	1.8	< 1
GD207 (Hedgepath)	10/18/04	R	< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	1.5	< 1
GD303 (Bermann)	6/15/04	R	< 1	< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1

TABLE 4.2

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUND SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	1,1-Dichloroethane µg/L	1,2-Dichloroethane µg/L	1,2-Dichloroethene, Total µg/L	1,2-Dichloropropane µg/L	Acetone µg/L	Benzene µg/L	Carbon disulfide µg/L	Chloroethane µg/L	Chloromethane µg/L	Ethylbenzene µg/L	Methyl ethyl ketone µg/L	Methylene chloride µg/L	Tetrachloroethene µg/L	Toluene µg/L	Trichloroethene µg/L	Vinyl chloride µg/L	Xylenes, Total µg/L
GD979 (R. Brown)	8/16/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1
CN295 (Jankowski)	8/16/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1
GD893 (Chew)	8/16/04		< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1
MCL				5	70	5		5				700			5	1000	5	2	10000
AO				2.5	35	2.5		2.5				350			2.5	500	2.5	1	5000

Notes:
MCL - Maximum Contaminant Level
AO - Administrative Order (AO) Action Level for residential wells
D - Duplicate sample
M - Monthly sample
R - Resample
J - The result is considered an estimated quantity
U - The analyte is non-detect with the associated value being the quantitation limit.
UJ - The analyte was checked for, but not detected. The associated value is an estimated quantitation limit.
Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.3

SUMMARY OF DETECTED METALS SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	Aluminum, Total ug/L	Arsenic, Total ug/L	Barium, Dissolved ug/L	Barium, Total ug/L	Boron, Total ug/L	Cadmium, Total ug/L	Calcium, Dissolved ug/L	Calcium, Total ug/L	Chromium, Dissolved ug/L	Chromium, Total ug/L	Copper, Total ug/L	Iron, Dissolved ug/L	Iron, Total ug/L
Lower Aquifer Wells															
OW409	8/18/04		< 200	< 5		320		< 1		117000		< 5	< 10		2590
OW410	8/16/04		< 200	< 5		129		< 1		117000		< 5	< 10		3190
OW417	8/17/04		< 200	< 5		133		< 1		110000		< 5	< 10		2990
OW421	8/16/04		< 200	< 5		340		< 1		135000		< 5	< 10		6090
Upper Aquifer Wells															
G305B	8/17/04		< 200	< 5		57.9		< 1		113000		< 5	< 10		2750
G305B	8/17/04	D	< 200	< 5		59.1		< 1		115000		< 5	< 10		2810
OW403	8/17/04		< 200	< 5		25.7		2		26400		25.8	< 10		85700
OW404	8/16/04		318	< 5		56.9		< 1		97900		5.7	< 10		3390
OW405	8/16/04		< 200	< 5		55.6		< 1		91000		< 5	< 10		1570
OW406	8/18/04		2100	5.8	596	525		< 1	63000	71900	8.1	52.1	< 10	2130	5280
OW407	8/17/04		< 200	< 5		654		< 1		76400		< 5	< 10		3280
OW408	8/16/04		< 200	< 5		768		< 1		91900		< 5	< 10		6420
OW412	8/17/04		< 200	< 5		91.3		< 1		192000		< 5	< 10		6360
OW413	8/16/04		355 J	39.6		329		< 1		104000	< 5	147 J	< 10		2650
OW413	8/16/04	D	665 J	40.9		339		< 1		128000	< 5	266 J	10.9		3780
OW414	8/17/04		< 200	< 5		110		< 1		29700		< 5	< 10		111
OW416	8/16/04		485 J	< 5		180		< 1		166000		64.1 J	< 10		6790
OW416	8/16/04	D	< 200 UJ	< 5		153		< 1		164000		24.6 J	< 10		5680
OW420	8/16/04		< 200	< 5		186		< 1		200000		6.2	< 10		1340
Residential Wells															
BR951 (Kazimor)	8/16/04		< 200	< 5		109		< 1		126000		< 5	42.8		8210
GD065 (Oakley)	8/16/04		< 200	< 5		255		< 1		119000		< 5	36.9		1680
GD065 (Oakley)	10/18/04	R													
GD303 (Bermann)	6/15/04	R	< 200	< 5		123		< 1		84800		< 5	< 10		1150
GD979 (R. Brown)	8/16/04		< 200	< 5		142		< 1		92700		< 5	< 10		8540
CN295 (Jankowski)	8/16/04		< 200	< 5		48.5		< 1		109000		< 5	< 10		1820

TABLE 4.3

SUMMARY OF DETECTED METALS SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	Aluminum, Total ug/L	Arsenic, Total ug/L	Barium, Dissolved ug/L	Barium, Total ug/L	Boron, Total ug/L	Cadmium, Total ug/L	Calcium, Dissolved ug/L	Calcium, Total ug/L	Chromium, Dissolved ug/L	Chromium, Total ug/L	Copper, Total ug/L	Iron, Dissolved ug/L	Iron, Total ug/L
GD893 (Chew)	8/16/04		< 200	< 5		93.6		< 1		77500		< 5	< 10		906
MCL				50	2000	2000		5			100	100			
AO				25	1000	1000		2.5			50	50			

TABLE 4.3

SUMMARY OF DETECTED METALS SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	Lead, Total ug/L	Magnesium, Dissolved ug/L	Magnesium, Total ug/L	Manganese, Dissolved ug/L	Manganese, Total ug/L	Nickel, Total ug/L	Potassium, Dissolved ug/L	Potassium, Total ug/L	Sodium, Dissolved ug/L	Sodium, Total ug/L	Zinc, Total ug/L
Lower Aquifer Wells													
OW409	8/18/04		< 3		65000		55.2	< 40		16300		216000	< 20
OW410	8/16/04		< 3		61600		86.9	< 40		5170		50000	< 20
OW417	8/17/04		< 3		70300		71.8	< 40		7420		60300	< 20
OW421	8/16/04		< 3		77000		94.8	< 40		15400		186000	489
Upper Aquifer Wells													
G305B	8/17/04		< 3		52400		80.1	< 40		< 5000		15900	< 20
G305B	8/17/04	D	< 3		53600		81.7	< 40		< 5000		16100	< 20
OW403	8/17/04		15		40900		439	< 40		11500		75500	< 20
OW404	8/16/04		< 3		41900		49.7	< 40		5600		63100	< 20
OW405	8/16/04		< 3		55100		38.4	< 40		< 5000		15600	< 20
OW406	8/18/04		< 3	62000	63200	15.9	74.5	58.4	130000	115000	652000	577000	< 20
OW407	8/17/04		< 3		64200		35.3	< 40		113000		683000	< 20
OW408	8/16/04		< 3		84400		42.5	< 40		113000		477000	< 20
OW412	8/17/04		< 3		83600		235	< 40		5510		119000	< 20
OW413	8/16/04		< 3		63800		75.3	89.4 J		117000		427000	< 20
OW413	8/16/04	D	< 3		65400		113	145 J		116000		421000	< 20
OW414	8/17/04		< 3		28500		< 10	< 40		< 5000		36500	< 20
OW416	8/16/04		< 3		81000		197	< 40		15100		64200	< 20
OW416	8/16/04	D	< 3		78800		192	< 40		12400		66700	< 20
OW420	8/16/04		< 3		62500		1950	< 40		13500		134000	< 20
Residential Wells													
BR951 (Kazimor)	8/16/04		< 3		78400		81.8	< 40		< 5000		30200	< 20
GD065 (Oakley)	8/16/04		< 3		70200		28.9	< 40		12500		155000	56.5
GD065 (Oakley)	10/18/04	R										183000	
GD303 (Bermann)	6/15/04	R	< 3		64300		10	< 40		< 5000		53700	406
GD979 (R. Brown)	8/16/04		< 3		67900		51.1	< 40		5210		62000	< 20
CN295 (Jankowski)	8/16/04		< 3		52900		51.9	< 40		< 5000		5700	30

TABLE 4.3

SUMMARY OF DETECTED METALS SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	Lead, Total ug/L	Magnesium, Dissolved ug/L	Magnesium, Total ug/L	Manganese, Dissolved ug/L	Manganese, Total ug/L	Nickel, Total ug/L	Potassium, Dissolved ug/L	Potassium, Total ug/L	Sodium, Dissolved ug/L	Sodium, Total ug/L	Zinc, Total ug/L
GD893 (Chew)	8/16/04		< 3		66700		< 10	< 40		< 5000		18900	97.4
MCL													
AO											100000	100000	

Notes:
MCL - Maximum Contaminant Level
AO - Administrative Order (AO) Action Level for residential wells
D - Duplicate sample
R - Resample
J - The result is considered an estimated quantity
U - The analyte is non-detect with the associated value being the quantitation limit.
UJ - The analyte was checked for, but not detected. The associated value is an estimated quantitation limit.
Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.4

SUMMARY OF DETECTED GENERAL WATER QUALITY SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	Alkalinity, bicarbonate, as CaCO3 mg/L	Alkalinity, carbonate, as CaCO3 mg/L	Alkalinity, Total mg/L	Carbon, Total Organic mg/L	Chemical Oxygen Demand mg/L	Chloride mg/L	Nitrogen, as Ammonia mg/L	Nitrogen, Nitrate mg/L	Nitrogen, Nitrite mg/L	Solids, Total Dissolved mg/L	Sulfate mg/L
Lower Aquifer Wells													
OW409	8/18/04		650	< 5	650	45	25.5	326	15	< 0.1	0.68	1200	22.6
OW410	8/16/04		420	36	460	5	< 10	119	1.1	< 0.1	0.12	660	31.3
OW417	8/17/04		430	39	470	6	11.6	144	< 1	< 0.1	0.063 J	700	25.1
OW421	8/16/04		630	< 5	630	14	46.7	300	7.4	< 0.1	0.35 J	1100	30.9
Upper Aquifer Wells													
G305B	8/17/04		340	27	360	2	< 10	51.5	< 1	< 0.1	0.033 J	570	77
G305B	8/17/04	D	340	26	370	2	< 10	51.6	< 1	< 0.1	0.086 J	610	77.3
OW403	8/17/04		120	15	130	4	20.7	176	5.4	< 0.1	0.17	380	< 5
OW404	8/16/04		240	19	260	2	< 10	157	1.1	< 0.1	0.16	620	68.7
OW405	8/16/04		310	24	340	1	< 10	61.1	< 1	< 0.1	0.054 J	530	68.2
OW406	8/18/04		1300	12	1300	17	187	955	100	< 0.1	1.9	2700	< 5
OW407	8/17/04		1100	12	1100	33	152	999	98	< 0.1	1.2	2300	< 5
OW408	8/16/04		1300	16	1300	47	182	656	120	< 0.1	0.23 J	1900	< 5
OW412	8/17/04		630	13	640	5	< 10	229	2.6	< 0.1	0.23	1100	73.6
OW413	8/16/04		1000	12	1100	42	195	614	100	< 0.1	0.38 J	1700	< 5
OW413	8/16/04	D	1000	11	1100	44	190	621	110	< 0.1	0.84 J	1700	< 5
OW414	8/17/04		200	21	220	3	14.7	36.3	4.5	< 0.1	0.053 J	270	< 5
OW416	8/16/04		590	< 5	590	3	< 10 UJ	159	< 7.4 U	< 0.1	0.16	910	69.7
OW416	8/16/04	D	580	7.4	590	3	29.5 J	151	< 4.8 U	< 0.1	0.19	930	69
OW420	8/16/04		720	< 5	720	6	17.2	238	19	2.1	0.37 J	1200	61.8

TABLE 4.4

SUMMARY OF DETECTED GENERAL WATER QUALITY SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	Notes	Alkalinity, bicarbonate, as CaCO3 mg/L	Alkalinity, carbonate, as CaCO3 mg/L	Alkalinity, Total mg/L	Carbon, Total Organic mg/L	Chemical Oxygen Demand mg/L	Chloride mg/L	Nitrogen, as Ammonia mg/L	Nitrogen, Nitrate mg/L	Nitrogen, Nitrite mg/L	Solids, Total Dissolved mg/L	Sulfate mg/L
Residential Wells													
BR951 (Kazimor)	8/16/04		460	41	500	8	19.6	111	1.4	< 0.1	0.04 J	720	34.4
GD065 (Oakley)	8/16/04		590	< 5	590	16	44.3	253	12	< 0.1	0.57	960	30.2
GD065 (Oakley)	10/18/04	R						324					
GD303 (Bermann)	6/15/04	R	420	41	460	5	< 10	144	< 1	< 0.1	0.062 J	710 •	20
GD979 (R. Brown)	8/16/04		430	46	470	8	17.2	113	3.4	< 0.1	0.17	670	31.8
CN295 (Jankowski)	8/16/04		350	28	380	2	12.2	13.2	1.1	< 0.1	< 0.1	470	69.2
GD893 (Chew)	8/16/04		380	37	410	2	< 10	36.6	< 1	< 0.1	0.06 J	490	22.2
MCL													
AO								200					

Notes:

MCL - Maximum Contaminant Level

AO - Administrative Order (AO) Action Level for residential wells

D - Duplicate sample

R - Resample

J - The result is considered an estimated quantity

U - The analyte is non-detect with the associated value being the quantitation limit.

UJ - The analyte was checked for, but not detected. The associated value is an estimated quantitation limit.

Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.2

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUND SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date		1,1-Dichloroethane µg/L	1,2-Dichloroethane µg/L	1,2-Dichloroethene, Total µg/L	1,2-Dichloropropane µg/L	2-Hexanone µg/L	Acetone µg/L	Benzene µg/L	Carbon disulfide µg/L	Chloroethane µg/L	Chloromethane µg/L	Methyl ethyl ketone µg/L	Methyl isobutyl ketone µg/L	Styrene µg/L	Tetrachloroethene µg/L	Toluene µg/L	Trichloroethene µg/L	Vinyl chloride µg/L
Lower Aquifer Wells																			
OW409	8/16/05		< 1	< 1	< 1	< 1	< 10	< 10 U	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	0.22 J
OW410	8/15/05		< 1	< 1	< 1	< 1	< 10	< 10 U	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 1
OW417	8/17/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 1
OW421	8/15/05		< 1	< 1	< 1	< 1	< 10	< 10 U	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	0.81 J
Upper Aquifer Wells																			
G305B	8/16/05		< 1	< 1	< 1	< 1	< 10	< 10 U	< 1	< 1	< 1	0.31 J	< 10	< 10	< 1	< 1	< 1	< 1	1.4
G305B	8/16/05	D	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	0.36 J	< 10	< 10	< 1	< 1	< 1	< 1	1.6
OW403	8/17/05		< 1	< 1	0.76 J	< 1	< 10	< 10	< 1	< 1	< 1	0.3 J	< 10	< 10	< 1	< 1	< 1	1.1	< 1
OW404	8/17/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	0.25 J	< 10	< 10	< 1	< 1	< 1	< 1	< 1
OW405	8/16/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 1
OW406	8/17/05		0.28 J	< 1	< 1	< 1	< 10	< 10 U	< 1	< 1	< 1	< 1	< 10 U	< 10	< 1	< 1	< 1	< 1	< 1
OW407	8/16/05		< 5	< 5	< 5	< 5	< 50	< 50 U	< 5	< 5	< 5	< 5	< 50	< 50	< 5	< 5	< 5	< 5	< 5
OW408	8/17/05		< 1	< 1	< 1	< 1	< 10	< 10 U	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	0.29 J
OW412	8/16/05		1.4	0.25 J	4.7	< 1	< 10	< 10	< 1	< 1	0.89 J	0.26 J	< 10	< 10	< 1	< 1	< 1	< 1	10
OW413	8/17/05		0.3 J	< 1	< 1	< 1	< 10	< 10 U	3.9	1.6	< 1	< 1	< 10 U	< 10	< 1	< 1	< 1	< 1	0.29 J
OW413	8/17/05	D	0.31 J	< 1	< 1	< 1	< 10	< 10 U	3.9	1.1	< 1	0.15 J	< 10 U	< 10	< 1	< 1	0.18 J	< 1	0.25 J
OW414	8/16/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	0.18 J	< 10	< 10	< 1	< 1	< 1	< 1	< 1
OW415	8/16/05		< 1	< 1	< 1	< 1	< 10	< 10 U	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	0.22 J	< 1	< 1
OW416	8/16/05		< 1	< 1	1.3	< 1	< 10	< 10 U	< 1	< 1	< 1	0.26 J	< 10	< 10	< 1	< 1	< 1	< 1	38
OW416	8/16/05	D	< 1	< 1	1.3	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	38
OW418	8/17/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 1
OW419	8/17/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	0.51 J	< 10	< 10	< 1	< 1	0.18 J	< 1	< 1
OW420	8/15/05		3.6	0.45 J	15	2.1	< 10	< 10 U	0.54 J	< 1	2.1	< 1	< 10	< 10	< 1	4.5	< 1	2.9	24
Residential Wells																			
BR201 (Hoebbel)	8/16/05		< 1	< 1	< 1	< 1	< 10	0.94 J	< 1	< 1	< 1	0.17 J	< 10	< 10	< 1	< 1	< 1	< 1	< 1
BR981 (Kazimor)	8/16/05		< 1	< 1	< 1	< 1	< 10	1.2 J	< 1	< 1	< 1	0.23 J	< 10	< 10	< 1	< 1	< 1	< 1	< 1
CN226 (Nick)	8/17/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	0.16 J	< 10	< 10	< 1	< 1	< 1	< 1	< 1
CN295 (Jankowski)	8/17/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 1
CN300 (Biggerstaff)	8/17/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 1

TABLE 4.2

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUND SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date		1,1-Dichloroethane µg/L	1,2-Dichloroethane µg/L	1,2-Dichloroethene, Total µg/L	1,2-Dichloropropane µg/L	2-Hexanone µg/L	Acetone µg/L	Benzene µg/L	Carbon disulfide µg/L	Chloroethane µg/L	Chloromethane µg/L	Methyl ethyl ketone µg/L	Methyl isobutyl ketone µg/L	Styrene µg/L	Tetrachloroethene µg/L	Toluene µg/L	Trichloroethene µg/L	Vinyl chloride µg/L
GD207 (Hedgepath)	11/2/04		< 1	< 1	< 1	< 1	< 10	< 10 U	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	1.8
GD207 (Hedgepath)	12/6/04		< 1	< 1	< 1	< 1	< 10	< 10	< 1	0.9 J	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	1.7
GD207 (Hedgepath)	12/29/04		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	1.4
GD207 (Hedgepath)	2/2/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	2.5
GD207 (Hedgepath)	3/3/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	0.39 J	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	1.7
GD207 (Hedgepath)	3/31/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	1.8
GD207 (Hedgepath)	5/4/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	1.8
GD207 (Hedgepath)	6/8/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1 U	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	1.3
GD207 (Hedgepath)	7/1/05		< 1	< 1	< 1	< 1	< 10	< 10 U	< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	1.8
GD207 (Hedgepath)	8/2/05		< 1	< 1	< 1	< 1	< 10	< 10	< 1	< 1	< 1	< 1	< 10	< 10	< 1 U	< 1	< 1	< 1	1.8
GD207 (Hedgepath)	9/6/05		< 1	< 1	< 1	< 1	< 10	< 10 U	< 1	< 1	< 1	< 1	< 10	< 10	0.17 J	< 1	< 1	< 1	1.9
GD207 (Hedgepath)	10/31/05		< 1	< 1	< 1	< 1	0.41 J	6.4 J	< 1	< 1	< 1	< 1	0.74 J	0.82 J	< 1	< 1	< 1	< 1	1.7
MCL				5	70	5			5						100	5	1000	5	2
AO				2.5	35	2.5			2.5							2.5	500	2.5	1

Notes:
MCL - Maximum Contaminant Level
AO - Administrative Order (AO) Action Level for residential wells
D - Duplicate sample
M - Monthly sample
R - Resample
J - The result is considered an estimated quantity
U - The analyte is non-detect with the associated value being the quantitation limit.
Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.3

SUMMARY OF DETECTED METALS SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date		Aluminum, Total µg/L	Arsenic, Dissolved µg/L	Arsenic, Total µg/L	Barium, Total µg/L	Cadmium, Total µg/L	Calcium, Total µg/L	Chromium, Dissolved µg/L	Chromium, Total µg/L	Copper, Total µg/L	Iron, Total µg/L	Magnesium, Total µg/L	Manganese, Total µg/L	Nickel, Total µg/L	Potassium, Total µg/L	Sodium, Total µg/L	Zinc, Total µg/L
Lower Aquifer Wells																		
OW409	8/16/05		< 200		< 5	333	< 1	125000		< 5	< 10	2490	67400	56.4	< 40	18300	212000	< 20
OW410	8/15/05		< 200		< 5	136	< 1	118000		< 5	< 10	2950	61500	80.5	< 40	5120	49600	< 20
OW417	8/17/05		< 200		< 5	128	< 1	118000		< 5	< 10	3150	69600	77.7	< 40	< 5000	54400	< 20
OW421	8/15/05		< 200		< 5	350	< 1	131000		< 5	< 10	3730	74900	83.4	< 40	15500	190000	< 20
Upper Aquifer Wells																		
G305B	8/16/05		< 200		< 5	59.2	< 1	115000		< 5	< 10	2740	53100	76	< 40	< 5000	16500	< 20
G305B	8/16/05	D	< 200		< 5	58.4	< 1	115000		< 5	< 10	2760	53000	75.8	< 40	< 5000	16300	< 20
OW403	8/17/05		< 200		< 5	117	< 1	135000		8.6	< 10	1780	44900	807	< 40	12300	93000	< 20
OW404	8/17/05		< 200		< 5	55.2	< 1	89000		< 5	< 10	523	37800	32.2	< 40	5780	72500	< 20
OW405	8/16/05		< 200		< 5	62.2	< 1	91600		5.2	< 10	1470	53600	37.7	< 40	< 5000	18400	< 20
OW406	8/17/05		< 200		< 5	560	< 1	71600		6.7	< 10	2450	66700	21.1	< 40	125000	664000	< 20
OW407	8/16/05		< 200		< 5	593	< 1	69900		< 5	< 10	2600	69400	30.6	< 40	113000	659000	< 20
OW408	8/17/05		< 200		< 5	769	< 1	89700		< 5	< 10	5550	80100	35.1	< 40	113000	472000	< 20
OW412	8/16/05		< 200		< 5	80.5	< 1	183000		< 5	< 10	6310	78500	220	< 40	6230	117000	< 20
OW413	2/17/05			32.8	34.4													
OW413	8/17/05		1020		37.2	316	< 1	116000	24.5	3080	104	15200	59500	431	1570	103000	381000	< 20
OW413	8/17/05	D	1120		37.7	366	< 1	167000		3000	102	14900	56700	460	1540	97800	359000	< 20
OW414	8/16/05		< 200		< 5	110	< 1	32300		< 5	< 10	118	27400	< 10	< 40	< 5000	39100	< 20
OW415	8/16/05		< 200		< 5	86.7	< 1	103000		< 5	< 10	2510	69800	50.9	< 40	< 5000	10400	< 20
OW416	8/16/05		406 J		< 5	180	< 1	197000		169	< 10	7800	93200	261	88.1 J	13600	76500	< 20
OW416	8/16/05	D	209 J		< 5	169	< 1	183000		94	< 10	6810	87500	226	51.1 J	12600	76700	< 20
OW416	8/17/05								< 5									
OW418	8/17/05		< 200		< 5	65.7	< 1	105000		< 5	< 10	2080	62000	59.7	< 40	< 5000	8780	< 20
OW419	8/17/05		< 200		< 5	56.6	< 1	104000		< 5	< 10	7440	52100	117	< 40	< 5000	< 5000	< 20
OW420	8/15/05		< 200		< 5	211	< 1	186000		5.7	< 10	1900	47400	1480	< 40	21300	144000	< 20

TABLE 4.3

SUMMARY OF DETECTED METALS SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date		Aluminum, Total µg/L	Arsenic, Dissolved µg/L	Arsenic, Total µg/L	Barium, Total µg/L	Cadmium, Total µg/L	Calcium, Total µg/L	Chromium, Dissolved µg/L	Chromium, Total µg/L	Copper, Total µg/L	Iron, Total µg/L	Magnesium, Total µg/L	Manganese, Total µg/L	Nickel, Total µg/L	Potassium, Total µg/L	Sodium, Total µg/L	Zinc, Total µg/L
Residential Wells																		
BR201 (Hoebbel)	8/16/05		< 200		< 5	155	2.3	125000		< 5	33.5	4190	65600	82.6	< 40	6230	70500	31.8
BR981 (Kazimour)	8/16/05		< 200		< 5	121	< 1	130000		< 5	14.4	6000	79100	51.3	< 40	< 5000	35900	< 20
CN226 (Nick)	8/17/05		< 200		< 5	68.8	< 1	86800		< 5	< 10	2530	51300	44.2	< 40	< 5000	12400	< 20
CN295 (Jankowski)	8/17/05		< 200		< 5	49.4	< 1	105000		< 5	< 10	1870	49900	51	< 40	< 5000 J	7260	< 20
CN300 (Biggerstaff)	8/17/05		< 200		< 5	105	< 1	128000		< 5	< 10	3910	55300	88	< 40	< 5000	48400	< 20
MCL				50	50	2000	5		100	100								
AO				25	25	1000	2.5		50	50							100000	

Notes:
MCL - Maximum Contaminant Level
AO - Administrative Order (AO) Action Level for residential wells
D - Duplicate sample
J - The result is considered an estimated quantity
Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.4

SUMMARY OF DETECTED GENERAL WATER QUALITY SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date		Alkalinity, bicarbonate, as CaCO3 mg/L	Alkalinity, carbonate, as CaCO3 mg/L	Alkalinity, Total mg/L	Carbon, Total Organic mg/L	Chemical Oxygen Demand mg/L	Chloride mg/L	Nitrogen, as Ammonia mg/L	Nitrogen, Nitrate mg/L	Nitrogen, Nitrite mg/L	Solids, Total Dissolved mg/L	Sulfate mg/L
Lower Aquifer Wells													
OW409	8/16/05		570	54	620	17	80.2	332	18	< 0.1	< 0.1	1100	26.7
OW410	8/15/05		390	37	420	4	28.8	131	< 1	< 0.1	< 0.1	750	34.5
OW417	8/17/05		400	43	460	6	17.3	146	< 1	0.019 J	< 0.1	690	31.7
OW421	8/15/05		540	56	590	14	98.2	305	6	< 0.1	< 0.1	1100	35.4
Upper Aquifer Wells													
G305B	8/16/05		320	40	340	2	26.2	67.1	< 1	< 0.1	< 0.1	550	90.3
G305B	8/16/05	D	310	36	340	2	13.4	67	< 1	< 0.1	< 0.1	570	90.9
OW403	8/17/05		360	< 5	360	3	< 10	194	6.4	0.018 J	< 0.1	670	69.8
OW404	8/17/05		250	< 5	250	2	< 10	154	< 1	< 0.1	0.15	520	77.2
OW405	8/16/05		290	31	320	2	36.5	69.5	< 1	< 0.1 U	< 0.1	530	83
OW406	8/17/05		1200	16	1200	70	195	921	110	< 0.1	< 1	2300	< 5
OW407	8/16/05		1100	72	1200	73	265	1070	110	0.26	< 2	4800	< 5
OW408	8/17/05		1200	8.9	1300	52	159	672	110	< 0.1	0.39	1600	< 5
OW412	8/16/05		550	< 5	540	4	21.1	255	1.7	< 0.1	< 0.1	1100	87.6
OW413	8/17/05		1000	9.3	1000	42	145	611	81	< 0.1	< 1	1500	< 5
OW413	8/17/05	D	1000	7.1	1000	43	142	612	89	0.016 J	< 1	1700	< 5
OW414	8/16/05		200	13	210	4	26.2	48.9	4	< 0.1	< 0.1	280	5.2
OW415	8/16/05		430	52	480	2	15.9	1.5	< 1	< 0.1	< 0.1	540	70.7
OW416	8/16/05		550	41 J	580	4	28.8	174	4.9	< 0.1	< 0.1	950	80.1
OW416	8/16/05	D	520	63 J	580	4	33.9	174	6.3	< 0.1	< 0.1	950	76.2
OW418	8/17/05		370	39	410	3	< 10	6.1	< 1	< 0.1	< 0.1	500	108
OW419	8/17/05		320	33	350	3	< 10	13.7	< 1	0.02 J	< 0.1	440	95.3
OW420	8/15/05		780	11	790	6	26.2	200	39	0.81	< 0.1	1000	40.6

TABLE 4.4

SUMMARY OF DETECTED GENERAL WATER QUALITY SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date		Alkalinity, bicarbonate, as CaCO3 mg/L	Alkalinity, carbonate, as CaCO3 mg/L	Alkalinity, Total mg/L	Carbon, Total Organic mg/L	Chemical Oxygen Demand mg/L	Chloride mg/L	Nitrogen, as Ammonia mg/L	Nitrogen, Nitrate mg/L	Nitrogen, Nitrite mg/L	Solids, Total Dissolved mg/L	Sulfate mg/L
Residential Wells													
BR201 (Hoebbel)	8/16/05		430	51	460	7	< 10	152 J	< 1	< 0.1	< 0.1	760	34.1
BR981 (Kazimour)	8/16/05		450	28	470	8	15.9	126 J	< 1	< 0.1 U	< 0.1	770	47.1
CN226 (Nick)	8/17/05		320	41	370	2	< 10	1.2	< 1	< 0.1	< 0.1	410	65.2
CN295 (Jankowski)	8/17/05		310	47	360	2	< 10	18.2	< 1	< 0.1	< 0.1	470	83.9
CN300 (Biggerstaff)	8/17/05		360	< 5	360	4	11.4	116	2.4	< 0.1	0.24	620	89.4
MCL										10	1		
AO								200		5	0.5		

Notes:
MCL - Maximum Contaminant Level
AO - Administrative Order (AO) Action Level for residential wells
D - Duplicate sample
J - The result is considered an estimated quantity
U - The analyte is non-detect with the associated value being the quantitation limit.
Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.2

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUND SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	QA/QC	1,1-Dichloroethane µg/L	1,2-Dichloroethane µg/L	1,2-Dichloroethene, Total µg/L	Acetone µg/L	Benzene µg/L	Carbon disulfide µg/L	Chloroethane µg/L	Chloroform µg/L	Chloromethane µg/L	Ethylbenzene µg/L	Methyl ethyl ketone µg/L	Trichloroethene µg/L	Vinyl chloride µg/L	Xylenes, Total µg/L
Lower Aquifer Wells																
OW409	9/20/06		< 1	< 1	< 1	1.2 J	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW410	9/20/06		< 1	< 1	< 1	1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW417	9/20/06		< 1	< 1	< 1	0.82 J	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW417	9/20/06	D	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
Upper Aquifer Wells																
G305B	9/18/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	0.98 J	< 1
OW403	9/21/06		< 1	< 1	0.41 J	< 10	< 1	< 1	< 1	< 1	< 1	0.36 J	0.49 J	0.45 J	< 1	1.7
OW405	9/19/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW406	9/21/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW407	9/18/06		< 5	< 5	< 5	< 50	< 5	< 5	< 5	< 1	< 5	< 5	< 50	< 5	< 5	< 5
OW408	9/18/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	0.95 J	< 1	0.22 J	< 1
OW412	9/21/06		1.7	0.32 J	6	1.1 J	< 1	1.4	0.41 J	< 1	< 1	< 1	< 10	< 1	1.6	< 1
OW413	9/19/06		0.24 J	< 1	< 1	< 10	3.7	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW414	9/19/06		< 1	< 1	< 1	< 10	< 1	0.5 J	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW416	9/19/06		< 1	< 1	1.4	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	3.9	< 1
OW416	9/19/06	D	< 1	< 1	1.4	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	3.1	< 1
Residential Wells																
BR031 (Taylor)	9/21/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
BR143 (Victor)	9/20/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
CN221 (Groh)	9/20/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
CN325 (Fischer)	9/19/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
CN645-2 (Posadas)	9/20/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1

TABLE 4.2

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUND SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	QA/QC	1,1-Dichloroethane µg/L	1,2-Dichloroethane µg/L	1,2-Dichloroethene, Total µg/L	Acetone µg/L	Benzene µg/L	Carbon disulfide µg/L	Chloroethane µg/L	Chloroform µg/L	Chloromethane µg/L	Ethylbenzene µg/L	Methyl ethyl ketone µg/L	Trichloroethene µg/L	Vinyl chloride µg/L	Xylenes, Total µg/L
GD207 (Hedgepath)	11/30/05		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	1.6	< 1
GD207 (Hedgepath)	12/22/05		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	1.6	< 1
GD207 (Hedgepath)	1/31/06		< 1	< 1	< 1	< 10 U	< 1	0.35 J	< 1	< 1	< 1	< 1	< 10	< 1	1.5	< 1
GD207 (Hedgepath)	2/28/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	1.7	< 1
GD207 (Hedgepath)	3/31/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	1.5	< 1
GD207 (Hedgepath)	4/27/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	1.3	< 1
GD207 (Hedgepath)	4/27/06	D	< 1	< 1	< 2	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 5	< 1	1.8	< 3
GD207 (Hedgepath)	5/31/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	1.7	< 1
GD207 (Hedgepath)	5/31/06	D	< 1	< 1	< 2	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 5	< 1	2.1	< 3
GD207 (Hedgepath)	6/30/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	1.8	< 1
GD207 (Hedgepath)	8/1/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	1.8	< 1
GD207 (Hedgepath)	8/31/06		< 1 R	< 1 R	< 1 R	< 10 R	< 1 R	0.37 J	< 1 R	< 1	< 1 R	< 1 R	< 10 R	< 1 R	1.5 J	< 1
GD207 (Hedgepath)	9/6/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	0.28 J	< 1	< 10	< 1	2.0	< 1
GD207 (Hedgepath)	9/29/06		< 1	< 1	< 1	< 10 U	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	1.8	< 1
GD207 (Hedgepath)	10/31/06		< 1	< 1	< 1	< 10 U	< 1	0.58 J	< 1	0.37 J	< 1	< 1	< 10	< 1	1.5	< 1
		MCL		5	70		5					700		5	2	10,000
		AO		2.5	35		2.5					350		2.5	1	5,000

Notes:

MCL - Maximum Contaminant Level

AO - Administrative Order (AO) Action Level for residential wells

D - Duplicate sample

M - Monthly sample

R - Rejected

J - The result is considered an estimated quantity

U - The analyte is non-detect with the associated value being the quantitation limit.

Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.2

SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUND SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	*Date*	*QA/QC*	*1,1-Dichloroethane* µg/L	*1,2-Dichloroethane* µg/L	*1,2-Dichloroethene, Total* µg/L	*Acetone* µg/L	*Benzene* µg/L	*Carbon disulfide* µg/L	*Chloroethane* µg/L	*Chloroform* µg/L	*Chloromethane* µg/L	*Ethylbenzene* µg/L	*Methyl ethyl ketone* µg/L	*Trichloroethene* µg/L	*Vinyl chloride* µg/L	*Xylenes, Total* µg/L
Lower Aquifer Wells																
OW409	9/20/06		< 1	< 1	< 1	1.2 J	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW410	9/20/06		< 1	< 1	< 1	1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW417	9/20/06		< 1	< 1	< 1	0.82 J	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW417	9/20/06	D	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
Upper Aquifer Wells																
G305B	9/18/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	0.98 J	< 1
OW403	9/21/06		< 1	< 1	0.41 J	< 10	< 1	< 1	< 1	< 1	< 1	0.36 J	0.49 J	0.45 J	< 1	1.7
OW405	9/19/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW406	9/21/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW407	9/18/06		< 5	< 5	< 5	< 50	< 5	< 5	< 5	< 1	< 5	< 5	< 50	< 5	< 5	< 5
OW408	9/18/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	0.95 J	< 1	0.22 J	< 1
OW412	9/21/06		1.7	0.32 J	6	1.1 J	< 1	1.4	0.41 J	< 1	< 1	< 1	< 10	< 1	1.6	< 1
OW413	9/19/06		0.24 J	< 1	< 1	< 10	3.7	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW414	9/19/06		< 1	< 1	< 1	< 10	< 1	0.5 J	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
OW416	9/19/06		< 1	< 1	1.4	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	3.9	< 1
OW416	9/19/06	D	< 1	< 1	1.4	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	3.1	< 1
Residential Wells																
BR031 (Taylor)	9/21/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
BR143 (Victor)	9/20/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
CN221 (Groh)	9/20/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
CN325 (Fischer)	9/19/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1
CN645-2 (Posadas)	9/20/06		< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1

TABLE 4.3

SUMMARY OF DETECTED METALS SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	QA/QC	Antimony, Total µg/L	Arsenic, Total µg/L	Arsenic, Dissolved µg/L	Barium, Total µg/L	Calcium, Total µg/L	Chromium, Total µg/L	Copper, Total µg/L	Iron, Total µg/L	Magnesium, Total µg/L	Manganese, Total µg/L	Potassium, Total µg/L	Sodium, Total µg/L
Lower Aquifer Wells														
OW409	9/20/06		< 5	< 5		326	121,000	11.3	< 10	2,830	69,200	57.1	19,300	228,000
OW410	9/20/06		< 5	< 5		135	121,000	< 5	< 10	3,430	65,400	87.2	5,470	54,100
OW417	9/20/06		< 5	< 5		120	112,000	< 5	< 10	3,060	68,500	69.4	< 5,000	59,800
OW417	9/20/06	D	< 5	< 5		125	117,000	< 5	< 10	3,210	71,600	72.7	< 5,000	62,400
Upper Aquifer Wells														
G305B	9/18/06		< 5	< 5		68.4	115,000	< 5	< 10	2,800	53,000	78.7	< 5,000	23,800
OW403	9/21/06		< 5	< 5		106	137,000	< 5	< 10	9,510	51,400	693	12,200	78,500
OW405	9/19/06		< 5	< 5		65.4	102,000	< 5	< 10	3,720	57,000	51.6	< 5,000	22,300
OW406	9/21/06		5	< 5		494	64,900	7.5	< 10	2,010	72,300	18.4	122,000	661,000
OW407	9/18/06		< 5	< 5		612	66,100	< 5	< 10	2,340	63,100	29.9	115,000	683,000
OW408	9/18/06		< 5	< 5		788	86,400	< 5	< 10	5,930	79,600	35.8	117,000	507,000
OW412	9/21/06		< 5	< 5		88.3	167,000	< 5	< 10	2,100	52,300	176	5,420	96,700
OW413	9/19/06		< 5	33.6	32.1	287	57,900	18.1	< 10	1,460	53,000	< 10	106,000	439,000
OW414	9/19/06		< 5	< 5		115	27,600	< 5	< 10	< 100	30,200	< 10	< 5,000	69,700
OW416	9/19/06		< 5	< 5		151	166,000	19.7	< 10	6,160	78,200	196	9,450	78,600
OW416	9/19/06	D	< 5	< 5		153	170,000	16.3	< 10	6,290	80,300	200	9,700	80,900
Residential Wells														
BR031 (Taylor)	9/21/06		< 5	< 5		91.3	109,000	< 5	< 10	5,220	66,700	55.9	< 5,000	24,800
BR143 (Victor)	9/20/06		< 5	< 5		156	119,000	< 5	70.7	3,420	65,000	70.7	6,560	86,700
CN221 (Groh)	9/20/06		< 5	< 5		67.1	77,900	< 5	< 10	1,770	47,600	25.6	< 5,000	11,600
CN325 (Fischer)	9/19/06		< 5	< 5		40.7	130,000	< 5	< 10	6,090	57,900	145	< 5,000	< 5,000
CN645-2 (Posadas)	9/20/06		< 5	< 5		44.7	95,400	< 5	< 10	1,610	50,300	92.7	< 5,000	8,460
		MCL	***6***	***10***	***10***	***2,000***		***100***						
		AO	***3***	***5***	***5***	***1,000***		***50***						***100,000***

Notes:

MCL - Maximum Contaminant Level

AO - Administrative Order (AO) Action Level for residential wells

D - Duplicate sample

J - The result is considered an estimated quantity

Shaded areas represent exceedence of MCL or AO Action Level

TABLE 4.4

SUMMARY OF DETECTED GENERAL WATER QUALITY SAMPLING RESULTS
WAUCONDA LANDFILL SITE

Location	Date	QA/QC	Alkalinity, bicarbonate, as CaCO3 mg/L	Alkalinity, carbonate, as CaCO3 mg/L	Alkalinity, Total mg/L	Chemical Oxygen Demand mg/L	Carbon, Total Organic mg/L	Chloride mg/L	Nitrogen, as Ammonia mg/L	Nitrogen, Nitrite mg/L	Solids, Total Dissolved mg/L	Sulfate mg/L
Lower Aquifer Wells												
OW409	9/20/06		630	< 5	640	75.2	18	348	20	0.35	1,200	27.6 J
OW410	9/20/06		430	32	440	22.1	4	133	< 1	0.19	670	45.7 J
OW417	9/20/06		420	46	460	22.1	7	155	< 1	0.22	740	40.3 J
OW417	9/20/06	D	390	37	460	< 20	6	153	< 1	< 0.1	720	74.7 J
Upper Aquifer Wells												
G305B	9/18/06		320	34	350	65.1	2	77.5	< 1	< 0.5	580	116
OW403	9/21/06		430	< 5	430	< 20	3	168	7.2	0.16	1,500	93.4
OW405	9/19/06		300	27	320	< 20	< 1	75.8	< 1	< 0.1	520	113
OW406	9/21/06		1,100	13	1,200	262	65	807	140	< 1	1,800	< 5
OW407	9/18/06		1,000	75	1,100	272	65	962	110	[redacted]	2,400	< 5
OW408	9/18/06		1,200	< 5	1,200	191	48	636	110	[redacted]	1,800	< 5
OW412	9/21/06		520	< 5	520	< 20	6	153	2	< 0.1	2,200	66
OW413	9/19/06		940	< 5	950	169	43	624	110	0.64	1,600	< 5
OW414	9/19/06		170	15	180	< 20	7	102	4.3	0.16	350	29.4
OW416	9/19/06		600	6.2	590	< 20	4	169	4	0.12	980	116
OW416	9/19/06	D	610	< 5	600	< 20	4	173	4	0.091 J	990	121
Residential Wells												
BR031 (Taylor)	9/21/06		430	< 5	430	< 20	4	76.4	1.2	< 0.1	1,000	43.7
BR143 (Victor)	9/20/06		450	45	480	< 20	8	169	< 1	0.17	770	39.1 J
CN221 (Groh)	9/20/06		330	39	380	< 20	2	3.1	< 1	< 0.1	410	84.3 J
CN325 (Fischer)	9/19/06		380	< 5	370	< 20	4	9.4	< 1	< 0.1	620	237
CN645-2 (Posadas)	9/20/06		330	26	340	< 20	1	33.7	< 1	< 0.1	440	99.6 J
		MCL								***1***		
		AO						***200***		***0.5***		

Notes:

MCL - Maximum Contaminant Level

AO - Administrative Order (AO) Action Level for residential wells

D - Duplicate sample

J - The result is considered an estimated quantity

U - The analyte is non-detect with the associated value being the quantitation limit.

Shaded areas represent exceedence of MCL or AO Action Level

TABLE 3.1

GROUNDWATER ELEVATIONS SUMMARY - 1994 THROUGH 2006
WAUCONDA LANDFILL SITE

Well Location	*Top of Casing Elevation*	*Aug-94*	*Aug-95*	*Aug-96*	*Aug-97*	*Aug-98*	*Aug-99*	*Aug-00*	*Aug-01*	*Aug-02*	*Jan-04*	*Aug-04*	*Aug-05*	*Oct-06*
Upper Aquifer														
G305B	768.50	761.77	761.85	763.49	762.31	762.22	762.18	761.77	760.95[4]	760.42	758.99	760.9	758.90	758.70
G311A [1]	784.33	767.14	767.20	769.42	767.69	768.37	--	--	--	--	--	--	--	--
OW401	804.38	771.61	771.42	773.41	772.20	772.73	773.28	772.46	771.71	771.18	768.7	770.98	769.67	768.68
OW402	807.42	766.78	766.74	768.82	767.41	767.92	768.37	767.39	766.94	766.16	--	--	--	--
OW403	821.32	763.17	763.26	765.00	763.78	763.87	764.15	763.37	763.22	762.21	761.57	762.21	760.26	759.61
OW404	812.03	762.91	764.38	766.11	764.81	764.96	765.13	764.44	764.23	763.21	761.01	763.22	761.23	759.24
OW405	805.07	758.23	758.28	759.69	758.45	758.22	758.17	757.73	757.68	756.46	755.04	756.57	754.64	754.50
OW406	787.62	761.49	761.57	763.07	761.90	762.04	761.94	761.23	761.28	760.20	758.47	760.33	758.43	757.92
OW407	774.84	764.34	764.33	765.84	764.71	764.88	764.96	764.32	764.03	763.14	761.02	763.14	761.35	760.74
OW408	770.73	761.31	761.44	762.94	761.76	761.74	761.57	761.13	760.84	759.93	758.37	760.30	758.33	758.06
OW411	781.14	772.62	772.47	774.41	773.28	773.78	774.29	773.62	772.79	772.32	769.97	772.26	770.94	769.99
OW412	819.33	766.78	766.74	768.76	767.39	767.91	768.31	767.39	766.93	766.19	763.49	765.92	764.58	763.58
OW413	813.62	763.12	763.17	764.91	763.70	764.05	764.08	763.27	763.13	762.09	760.09	762.12	760.20	759.51
OW414	826.18	757.93	758.53	759.38	758.28	758.09	757.83	757.30	756.7 [4]	756.16	754.89	756.31	754.31	754.16
OW415	798.80	758.02	758.22	759.68	758.30	758.17	757.83	757.43	757.40	756.07	754.91	756.48	754.28	754.24
OW416	810.36	765.40	765.41	767.26	766.01	766.42	766.80	765.06	765.56	764.84	762.18	764.54	763.05	762.02
OW418	780.90	758.20	758.36	759.91	758.62	758.39	758.11	757.89	757.63	756.34	755.19	756.79	754.67	753.53
OW419	772.64	760.92	761.23	763.16	761.60	761.64	761.66	761.31	760.65	759.76	764.58	761.56	760.85	757.55
OW420	814.74	NI	NI	NI	--	772.34	772.90	772.34	770.27 [4]	770.37	767.77	770.21	768.74	767.66
Lower Aquifer														
G311B [2]	796.94	756.15	756.05	757.32	770.17	770.73	--	755.78	755.68	754.07	754.92	-- [6]	-- [6]	-- [6]
OW409	786.33	757.55	757.66	759.02	757.72	757.57	757.27	756.92	756.88	755.57	754.53	755.92	753.90	753.82
OW410	783.65	754.06	753.92	755.13	754.03	753.60	754.02	753.73	753.13 [4]	752.19	751.95	752.77	750.97	751.22
OW417	786.94	754.74	754.66	755.92	755.09	754.44	754.74	754.30	753.77 [4]	752.91	752.37	753.24	751.28	751.52
OW421 [3]	807.49	--	--	--	--	752.99	753.54	753.08	752.57 [4]	751.78	751.28	752.12	750.30	750.57

Notes:

All elevations shown in feet above mean sea level (AMSL)

-- Not measured

NI - Not installed

[1] Abandoned May 17, 1999

[2] Well was extended due to construction in 1999

[3] Converted from residential well (G216) to monitoring well in 1998

[4] Due to error with August 2001 measurement, water level remeasured September 2001 and used to construct groundwater contours.

[5] Anomalous reading due to well damage

[6] Well is damaged

ATTACHMENT 7

(Site Inspection/Checklist)

5/15/07

5 Year Inspection - Waukegan Landfill

Ron Fielner	CLA	651-639-0913
Andy Sumiński	TTEMI	312-201-7784
Stu Russell	Hazardous Waste Services	(630) 637-9470
Marc Loeroy	" "	(630) 637-9470
Anson Johnson	Waste Mgt.	630.218.1914
Ken Winkley	EPA	847 738 5392
Jeff Lifka	Tetra Tech (SulTRAC)	312-201-7491
Donald Bruce	U.S. EPA	312-886-7241
Michael Kuhn	LCHD	847-377-8016
Ralph Pegams	LCHD	" " 8027
Loleta Hill	U.S. EPA	(312) 353-1621
Eric Ruskell	Ill. EPA	(217) 782-6761
Bill Plunkett	WTS	(708) 974 8378

Please note that "O&M" is referred to throughout this checklist. At sites where Long-Term Response Actions are in progress, O&M activities may be referred to as "system operations" since these sites are not considered to be in the O&M phase while being remediated under the Superfund program.

Five-Year Review Site Inspection Checklist (Template)

(Working document for site inspection. Information may be completed by hand and attached to the Five-Year Review report as supporting documentation of site status. "N/A" refers to "not applicable.")

I. SITE INFORMATION	
Site name: Wauconda Sand + Gravel Landfill	**Date of inspection:** 05/15/07
Location and Region: Wauconda, IL Region 5	**EPA ID:**
Agency, office, or company leading the five-year review: U.S. EPA	**Weather/temperature:** 80s, clear-morning rain (noon)

Remedy Includes: (Check all that apply)

- (G) Landfill cover/containment
- (G) Access controls
- (G) Institutional controls
- G Groundwater pump and treatment
- G Surface water collection and treatment
- G Other _____
- G Monitored natural attenuation
- G Groundwater containment
- G Vertical barrier walls

Attachments: G Inspection team roster attached G Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** Ken Weekly (Name) — Site Custodian (Title) — 05/15/07 (Date)
   Interviewed (G) at site G at office G by phone Phone no. _____
   Problems, suggestions; G Report attached _____

2. **O&M staff** _____ (Name) _____ (Title) _____ (Date)
   Interviewed G at site G at office G by phone Phone no. _____
   Problems, suggestions; G Report attached _____

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; G Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; G Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; G Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; G Report attached _____

4. **Other interviews** (optional) G Report attached.

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**
   - G O&M manual — (G) Readily available — G Up to date — G N/A
   - G As-built drawings — (G) Readily available — G Up to date — G N/A
   - G Maintenance logs — (G) Readily available — G Up to date — G N/A

   Remarks_____

2. **Site-Specific Health and Safety Plan** — (G) Readily available — G Up to date — G N/A
   - G Contingency plan/emergency response plan — (G) Readily available — G Up to date — G N/A

   Remarks_____

3. **O&M and OSHA Training Records** — (G) Readily available — G Up to date — G N/A

   Remarks_____

4. **Permits and Service Agreements**
   - G Air discharge permit — G Readily available — G Up to date — (G) N/A
   - G Effluent discharge — G Readily available — G Up to date — (G) N/A
   - G Waste disposal, POTW — (G) Readily available — G Up to date — G N/A
   - G Other permits_____ — (G) Readily available — G Up to date — G N/A

   Remarks_____

5. **Gas Generation Records** — (G) Readily available — G Up to date — G N/A

   Remarks_____

6. **Settlement Monument Records** — (G) Readily available — G Up to date — G N/A

   Remarks_____

7. **Groundwater Monitoring Records** — (G) Readily available — G Up to date — G N/A

   Remarks_____

8. **Leachate Extraction Records** — (G) Readily available — G Up to date — G N/A

   Remarks_____

9. **Discharge Compliance Records**
   - G Air — G Readily available — G Up to date — (G) N/A
   - G Water (effluent) — G Readily available — G Up to date — (G) N/A

   Remarks_____

10. **Daily Access/Security Logs** — (G) Readily available — G Up to date — G N/A

    Remarks_____

IV. O&M COSTS

1. **O&M Organization**

G State in-house G Contractor for State
G PRP in-house (G) Contractor for PRP
G Federal Facility in-house G Contractor for Federal Facility
G Other _____

2. **O&M Cost Records**

(G) Readily available G Up to date
G Funding mechanism/agreement in place
Original O&M cost estimate _____ G Breakdown attached

Total annual cost by year for review period if available

From _____ To _____ _____ G Breakdown attached
Date Date Total cost
From _____ To _____ _____ G Breakdown attached
Date Date Total cost
From _____ To _____ _____ G Breakdown attached
Date Date Total cost
From _____ To _____ _____ G Breakdown attached
Date Date Total cost
From _____ To _____ _____ G Breakdown attached
Date Date Total cost

3. **Unanticipated or Unusually High O&M Costs During Review Period**

Describe costs and reasons: _____

V. ACCESS AND INSTITUTIONAL CONTROLS (G) Applicable G N/A

A. Fencing

1. **Fencing damaged** G Location shown on site map (G) Gates secured G N/A
Remarks _____

B. Other Access Restrictions

1. **Signs and other security measures** G Location shown on site map (G) N/A
Remarks _____

C. Institutional Controls (ICs)

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented — G Yes (G) No G N/A
Site conditions imply ICs not being fully enforced — G Yes (G) No G N/A

Type of monitoring (*e.g.*, self-reporting, drive by) _____
Frequency _____
Responsible party/agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.

Reporting is up-to-date — G Yes G No G N/A
Reports are verified by the lead agency — G Yes G No G N/A

Specific requirements in deed or decision documents have been met — (G) Yes G No G N/A
Violations have been reported — G Yes G No G N/A
Other problems or suggestions: G Report attached

2. **Adequacy** (G) ICs are adequate G ICs are inadequate G N/A
Remarks _____

D. General

1. **Vandalism/trespassing** G Location shown on site map (G) No vandalism evident
Remarks _____

2. **Land use changes on site** G N/A
Remarks Southwest corner (~7 acres) is outside fenceline, but still part of site being proposed for development by current landfill owner Dale Berger - wants to build an off-site storage facility.

3. **Land use changes off site** G N/A
Remarks _____

VI. GENERAL SITE CONDITIONS

A. Roads (G) Applicable G N/A

1. **Roads damaged** G Location shown on site map (G) Roads adequate G N/A
Remarks _____

B. Other Site Conditions

Remarks

VII. LANDFILL COVERS (G) Applicable G N/A

A. Landfill Surface

1. **Settlement** (Low spots) (G) Location shown on site map G Settlement not evident
   Areal extent ____ Depth ____
   Remarks Reported during inspection last year.

2. **Cracks** G Location shown on site map (G) Cracking not evident
   Lengths ____ Widths ____ Depths ____
   Remarks

3. **Erosion** G Location shown on site map G Erosion not evident
   Areal extent ____ Depth ____
   Remarks Some erosion in Southwest area where seeps have been found.

4. **Holes** G Location shown on site map (G) Holes not evident
   Areal extent ____ Depth ____
   Remarks

5. **Vegetative Cover** (G) Grass G Cover properly established G No signs of stress
   G Trees/Shrubs (indicate size and locations on a diagram)
   Remarks Several bare spots were noted in the southwest slope of the landfill. Also, several seeps were identified in this area. The dead vegetation at seeps are caused by build-up of gas & then escaping through landfill cover. There are no gas vents located in this area to reduce gas pressure.

6. **Alternative Cover (armored rock, concrete, etc.)** (G) N/A
   Remarks

7. **Bulges** G Location shown on site map (G) Bulges not evident
   Areal extent ____ Height ____
   Remarks

8. **Wet Areas/Water Damage** G Wet areas/water damage not evident
G Wet areas G Location shown on site map Areal extent_____
G Ponding G Location shown on site map Areal extent_____
(G) Seeps G Location shown on site map Areal extent Southwest area
G Soft subgrade G Location shown on site map Areal extent_____
Remarks caused by buildup gas as there are no gas vents in this area.

9. **Slope Instability** G Slides G Location shown on site map (G) No evidence of slope instability
Areal extent_____
Remarks_____

B. Benches G Applicable (G) N/A
(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1. **Flows Bypass Bench** G Location shown on site map (G) N/A or okay
Remarks_____

2. **Bench Breached** G Location shown on site map (G) N/A or okay
Remarks_____

3. **Bench Overtopped** G Location shown on site map (G) N/A or okay
Remarks_____

C. Letdown Channels (G) Applicable G N/A
(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1. **Settlement** (G) Location shown on site map G No evidence of settlement
Areal extent_____ Depth_____
Remarks The landfill continues to settle. Some areas need to be re-graded, and channel near leachate collection building continues to settle.

2. **Material Degradation** G Location shown on site map (G) No evidence of degradation
Material type_____ Areal extent_____
Remarks_____

3. **Erosion** G Location shown on site map (G) No evidence of erosion
Areal extent_____ Depth_____
Remarks_____

4. **Undercutting** G Location shown on site map (G) No evidence of undercutting
Areal extent_____ Depth_____
Remarks_____

5. **Obstructions** Type_____ (G) No obstructions
G Location shown on site map Areal extent_____
Size_____
Remarks_____

6. **Excessive Vegetative Growth** Type_____
G No evidence of excessive growth
(G) Vegetation in channels does not obstruct flow
G Location shown on site map Areal extent_____
Remarks_____

D. Cover Penetrations G Applicable G N/A

1. **Gas Vents** G Active (G) Passive
G Properly secured/locked G Functioning G Routinely sampled G Good condition
G Evidence of leakage at penetration G Needs Maintenance
G N/A
Remarks Some vents have shifted due to landfill settlement.

2. **Gas Monitoring Probes**
G Properly secured/locked G Functioning G Routinely sampled G Good condition
G Evidence of leakage at penetration G Needs Maintenance (G) N/A
Remarks_____

3. **Monitoring Wells** (within surface area of landfill)
G Properly secured/locked G Functioning (G) Routinely sampled G Good condition
G Evidence of leakage at penetration G Needs Maintenance G N/A
Remarks_____

4. **Leachate Extraction Wells**
G Properly secured/locked G Functioning G Routinely sampled (G) Good condition
G Evidence of leakage at penetration G Needs Maintenance G N/A
Remarks_____

5. **Settlement Monuments** (G) Located G Routinely surveyed G N/A
Remarks Surveyed in 2006, last time was in 1997.

E. Gas Collection and Treatment G Applicable (G) N/A

1. **Gas Treatment Facilities**
   G Flaring G Thermal destruction G Collection for reuse
   G Good condition G Needs Maintenance
   Remarks_____

2. **Gas Collection Wells, Manifolds and Piping**
   G Good condition G Needs Maintenance
   Remarks_____

3. **Gas Monitoring Facilities** (*e.g.*, gas monitoring of adjacent homes or buildings)
   G Good condition G Needs Maintenance G N/A
   Remarks_____

F. Cover Drainage Layer G Applicable (G) N/A

1. **Outlet Pipes Inspected** G Functioning G N/A
   Remarks_____

2. **Outlet Rock Inspected** G Functioning G N/A
   Remarks_____

G. Detention/Sedimentation Ponds G Applicable (G) N/A

1. **Siltation** Areal extent_____ Depth_____ G N/A
   G Siltation not evident
   Remarks_____

2. **Erosion** Areal extent_____ Depth_____
   G Erosion not evident
   Remarks_____

3. **Outlet Works** G Functioning G N/A
   Remarks_____

4. **Dam** G Functioning G N/A
   Remarks_____

H. Retaining Walls G Applicable (G) N/A

1. **Deformations** G Location shown on site map G Deformation not evident
   Horizontal displacement_____ Vertical displacement_____
   Rotational displacement_____
   Remarks_____

2. **Degradation** G Location shown on site map G Degradation not evident
   Remarks_____

I. Perimeter Ditches/Off-Site Discharge (G) Applicable G N/A

1. **Siltation** G Location shown on site map (G) Siltation not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Vegetative Growth** G Location shown on site map G N/A
   G Vegetation does not impede flow
   Areal extent_____ Type_____
   Remarks Annual cutting/mowing leaves vegetative growth on landfill, which impedes flow; cuttings should be removed and mowing more frequent than 1x/yr.

3. **Erosion** G Location shown on site map (G) Erosion not evident
   Areal extent_____ Depth_____
   Remarks_____

4. **Discharge Structure** G Functioning (G) N/A
   Remarks_____

VIII. VERTICAL BARRIER WALLS G Applicable (G) N/A

1. **Settlement** G Location shown on site map G Settlement not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Performance Monitoring** Type of monitoring_____
   G Performance not monitored
   Frequency_____ G Evidence of breaching
   Head differential_____
   Remarks_____

IX. GROUNDWATER/SURFACE WATER REMEDIES G Applicable (G) N/A

A. Groundwater Extraction Wells, Pumps, and Pipelines G Applicable G N/A

1. **Pumps, Wellhead Plumbing, and Electrical**
   G Good condition G All required wells properly operating G Needs Maintenance G N/A
   Remarks_____

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
   G Good condition G Needs Maintenance
   Remarks_____

3. **Spare Parts and Equipment**
   G Readily available G Good condition G Requires upgrade G Needs to be provided
   Remarks_____

B. Surface Water Collection Structures, Pumps, and Pipelines G Applicable G N/A

1. **Collection Structures, Pumps, and Electrical**
   G Good condition G Needs Maintenance
   Remarks_____

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
   G Good condition G Needs Maintenance
   Remarks_____

3. **Spare Parts and Equipment**
   G Readily available G Good condition G Requires upgrade G Needs to be provided
   Remarks_____

C. Treatment System G Applicable (G) N/A

1. **Treatment Train** (Check components that apply)
   G Metals removal G Oil/water separation G Bioremediation
   G Air stripping G Carbon adsorbers
   G Filters_____
   G Additive (*e.g.*, chelation agent, flocculent)_____
   G Others_____
   G Good condition G Needs Maintenance
   G Sampling ports properly marked and functional
   G Sampling/maintenance log displayed and up to date
   G Equipment properly identified
   G Quantity of groundwater treated annually_____
   G Quantity of surface water treated annually_____
   Remarks_____

2. **Electrical Enclosures and Panels** (properly rated and functional)
   G N/A G Good condition G Needs Maintenance
   Remarks_____

3. **Tanks, Vaults, Storage Vessels**
   G N/A G Good condition G Proper secondary containment G Needs Maintenance
   Remarks_____

4. **Discharge Structure and Appurtenances**
   G N/A G Good condition G Needs Maintenance
   Remarks_____

5. **Treatment Building(s)**
   G N/A G Good condition (esp. roof and doorways) G Needs repair
   G Chemicals and equipment properly stored
   Remarks_____

6. **Monitoring Wells** (pump and treatment remedy)
   G Properly secured/lockedG Functioning G Routinely sampled G Good condition
   G All required wells located G Needs Maintenance G N/A
   Remarks_____

D. Monitoring Data

1. Monitoring Data
   G Is routinely submitted on time G Is of acceptable quality

2. Monitoring data suggests:
   G Groundwater plume is effectively contained G Contaminant concentrations are declining

D. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)
G Properly secured/lockedG Functioning (G) Routinely sampled G Good condition
G All required wells located G Needs Maintenance G N/A
Remarks

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

O&M is adequate except for mowing of landfill cap should be semi-annual as cuttings left on cap impede flow, especially if vegetative growth is one-year old. Mowing 2x/year or more would prevent this and also alleviate the length of time it takes to mow the cap under current schedule of annual mowing. In addition, storage of all records/files in leachate collection building is not appropriate. If secondary containment fails, all files could be destroyed. Custodian should store these off-site or in another onsite location (Berger Excavating?).

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

Landfill cap settling & repair issues remain.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

N/A

ATTACHMENT 8

(Cap Repairs Work Plan)

Lolita Hill/R5/USEPA/US
08/16/2007 10:37 AM

To

Subject Fw: 1449 - Wauconda Landfill - Revised Planned Landfill Cap Repair Work Plan

----- Forwarded by Lolita Hill/R5/USEPA/US on 08/16/2007 10:37 AM -----

Lolita Hill/R5/USEPA/US
08/29/2006 12:32 PM

To "Voss, Steven" <svoss@craworld.com>, Ronald Frehner

cc andy.suminski@ttemi.com, Eric Runkel <Eric.Runkel@epa.state.il.us>, Ken Winkley <eslinkcorp@ecoisp.com>, Rik Lantz <rik.lantz@ttemi.com>, Mark Koller/R5/USEPA/US@EPA, Bob Kay/R5/USEPA/US@EPA, DONALD BRUCE/R5/USEPA/US@EPA

Subject Re: 1449 - Wauconda Landfill - Revised Planned Landfill Cap Repair Work Plan

Ron & Steve,

U.S. EPA has reviewed the attached revised Planned 2006 Landfill Cap Repair Work Plan dated August 17, 2006. This work plan is approved with the understanding that CRA will ensure that any clay used to repair the cap will be compacted and field judgement will be used to ensure that any clay will be properly compacted and hydrated to achieve acceptable density and permeability. Please feel free to contact me should you have additional questions or concerns.

"Voss, Steven" <svoss@craworld.com>

"Voss, Steven" <svoss@craworld.com>
08/17/2006 04:27 PM

To Lolita Hill/R5/USEPA/US@EPA

cc Eric Runkel <Eric.Runkel@epa.state.il.us>, Rik Lantz <rik.lantz@ttemi.com>, Ken Winkley <eslinkcorp@ecoisp.com>, andy.suminski@ttemi.com

Subject 1449 - Wauconda Landfill - Revised Planned Landfill Cap Repair Work Plan

Lolita:

Please find attached the Revised Work Plan for the 2006 Landfill Cap Repairs for USEPA review and approval. This revised plan incorporates the comments and discussions with USEPA regarding the original proposed work plan.

Upon USEPA approval, we will begin to make plans for implementation of the work plan.

Should you have any questions, please do not hesitate to contact us.

Steve

<<Revised Work Plan - 2006 Landfill Cap Repairs.pdf>>

Steven R. Voss
CONESTOGA-ROVERS & ASSOCIATES
1801 Old Highway 8 NW Suite 114
St. Paul, Minnesota 55112

Direct Phone: (651) 639-0439 ext. 331
General Phone: (651) 639-0913
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 Revised Work Plan - 2006 Landfill Cap Repairs.pdf

CONESTOGA-ROVERS
& ASSOCIATES

1801 Old Highway 8 N.W., Ste. #114, St. Paul, MN 55112
Telephone: 651-639-0913 Facsimile: 651-639-0923
www.CRAworld.com

August 17, 2006

Reference No. 1449-83

Ms. Lolita Hill
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY
Region V
Mail Station SR-6J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Dear Ms. Hill:

Re: Revised Work Plan
Planned 2006 Landfill Cap Repairs
Wauconda Landfill
Wauconda, Illinois

Based upon comments received from United States Environmental Protection Agency (USEPA) to the March 14, 2006 Work Plan, on May 4, 2006, July 13, 2006, and a subsequent conference call with TetraTech, this Work Plan has been revised accordingly.

This letter presents a summary of the planned cap maintenance at the Wauconda Landfill, Wauconda, Illinois, which the Wauconda Task Group (WTG) will be implementing this summer. Over the past few years, the condition of the landfill cap has remained stable with no major maintenance required. However, as identified during site inspections, we have been monitoring one area in the northeast area of the site to determine if this area will require maintenance.

These tasks are intended to address areas of the landfill cap which require attention, as identified during site inspections and as documented in the 2005 Annual Monitoring Report. Oversight of these repair activities will be provided by Conestoga-Rovers & Associates (CRA).

The areas of the landfill which are planned for repairs this year are presented on the attached Figure 1. The following repair activities which are planned to be implemented are summarized as follows:

- Ponding Area P-1 - This area (approximately 15' x 30') will be filled with clay and topsoil to correct the slight ponding issues in this area. The filled area will be covered with topsoil with a thickness of at least 6 inches and seeded. Should greater than 6 inches of topsoil be required to attain the desired grade, the existing topsoil will be stripped and the rough grade prepared using clay such that no more than 12 inches of topsoil is used to finish grade the area.

- Ponding Area P-2 - This area (approximately 20' x 20') will be filled with clay and topsoil to correct the slight ponding issues in this area. The filled area will be covered with topsoil with a thickness of at least 6 inches and seeded. Should greater than 6 inches of topsoil be required to attain the desired grade, the existing topsoil will be stripped and the rough grade prepared using clay such that no more than 12 inches of topsoil is used to finish grade the area.

- Ponding Area P-3 - This area (approximately 20' x 60') was surveyed and shown to have sufficient slope (2%) to promote drainage. The ponding observed during the 2005 site inspection was likely due to localized settlement not detected on the topographical survey completed in January 2006. As such, this area will be filled with clay and topsoil to correct the slight ponding issues. The filled area will be covered with topsoil with a thickness of at least 6 inches and seeded. Should greater than 6 inches of topsoil be required to attain the desired grade, the existing topsoil will be stripped and the rough grade prepared using clay such that no more than 12 inches of topsoil is used to finish grade the area.

- Ponding Area P-4 - The broad area at the upper end of Swale 1A has experienced a significant amount of settlement over the last 12 years. A comparison of the 1997 and 2006 topographic surveys indicate that this area has settled between 1 and 2 feet over this 9 year period. Based upon the 1986 well completion log for nearby leachate well LW504, the waste was estimated to be approximately 50 feet thick and the ground elevation at 822.2 feet above mean sea level (AMSL). Based on the 2006 surveyed ground elevation of 815 feet, this area has settled approximately 7 feet over the last 20 years.

  Settlement in this area was last addressed in 1998 with the construction of Swale 1A, which was intended to promote positive drainage in the northern portion of this area. This swale continues to provide a drainage feature for the area intended, but the area of the landfill cap south of Swale 1A has settled to the point where slope corrections are recommended to promote positive drainage and to account for potential future settlement of the area.

  Review of the topographical survey of this area (Figure 2) indicates that a positive drainage slope still exists, but localized settlement areas are likely causing the ponding observed in this area. Also observed on the topographical survey, but not visually observed during the site inspection, is a small settlement area at the upper end of Swale 1, as shown on Figure 2.

  Based upon the success achieved in creating Swale 1A in 1998 to address the observed ponding in that area, we are recommending that the same maintenance approach be used to address both of the settlement zones in this area. This approach involves extending both Swale 1 and Swale 1A with the construction of a trapezoidal ditch to help direct collected stormwater away from these areas. This maintenance approach not only promotes positive drainage, but also reduces the amount of waste excavated to create the ditch profiles. The

cross-sections of various profiles for the Swale 1A and Swale 1 extensions are presented on Figures 3 and 4, respectively.

This approach will require minimal excavation of buried waste (less than 300 CY) during construction of the swale. The excavated waste will be placed under the landfill cap at a location to be determined in the field. At least two feet of clay, placed in 8-inch lifts and compacted using a dozer with a minimum of three passes over the area, will be used to cover the relocated waste, followed by six inches of topsoil and seeding.

The swales will be aligned as depicted on Figure 2. Both swale extensions will have a final slope of 1.5%. Each completed swale extension will be finished with at least two feet of clay soil and six inches of seeded topsoil. Both swale extensions will be grass-lined to provide adequate erosion protection.

Due to the presence of the drainage culvert in the area of the Swale 1A extension, the location and depth of this pipe will be determined in the field prior to or during construction activities.

CAP MATERIAL SPECIFICATIONS

As stated in the Operation and Maintenance Plan (1991), cap repair and erosion control measures will meet the following criteria:

Clay

Imported clay will contain a minimum of 30% clay and no more than 25% sand and gravel. The clay shall be free of unsuitable materials which include, and are not limited to, the following:

- Material containing loam, roots, or organic matter;
- Frozen material or material containing snow or ice;
- Clays which are classified as inorganic clays of high plasticity;
- Soft and/or organic clays and silts of low strength;
- Frost susceptible silts or clays;
- Swelling clays;
- Rock and lumps of material with dimensions greater than specified layer thickness before compaction;
- Trees, stumps, branches, or any other wood or lumber; and
- Hazardous chemical substances.

Topsoil
Topsoil suitable for use shall be good quality, fertile loamy material free from roots, vegetation, weeds, parts of weeds, weed seeds and other debris or foreign matter. The source of topsoil shall be an area free from growth of Japanese Clover, Horsetail, Morning Glory, and other persistent weed plants. Topsoil should be free from lumps, stones and clods over one-inch in diameter. Topsoil shall not contain excess amounts by volume of organic matter, heavy clay or sand.

Topsoil shall not be obtained from swampy areas and shall not be infested with the seeds of noxious weeds. Imported topsoil shall be inspected and approved by the Site Custodian or CRA prior to delivery to the Site.

Topsoil stripped from the working area on-site may be reused if suitable as determined by the Site Custodian or CRA.

Grass Seed
If available, grass seed mixture will include 90% Kentucky Bluegrass and 10% Pennant Rye. The seed application rate shall be approximately 135 pounds per acre.

Although these maintenance activities are relatively minor, we would appreciate it if you could provide approval of these items. We anticipate beginning the maintenance activities soon after USEPA approval of this work plan.

Should you have any questions regarding this matter, please do not hesitate to call.

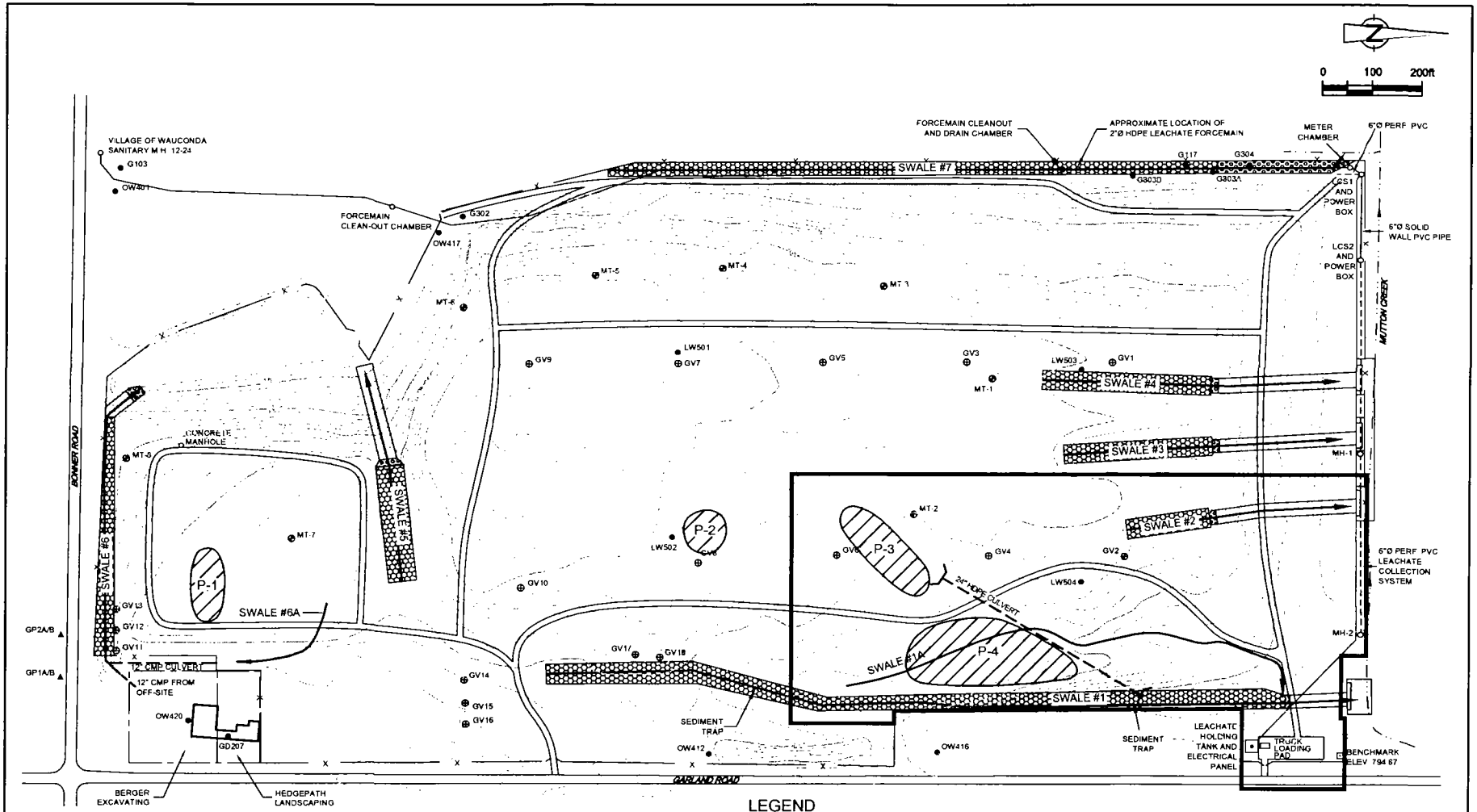
Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Ron Frehner, P.E.

RF/ma/80
Enc.

c.c. Eric Runkel; Illinois EPA
Andrew Suminski; TetraTech
Rik Lantz; TetraTech
WTG Technical Committee
Ken Winkley; Eslink Corporation



SOURCE: TOPOGRAPHY BASED ON COMBINATION OF VARIOUS SURVEYS CONDUCTED SINCE 1992.

figure 1

PONDING AREAS
WAUCONDA LANDFILL SITE
Wauconda, Illinois

CRA

01449-82(HILL0801)GN-SP001 AUG 17/2006

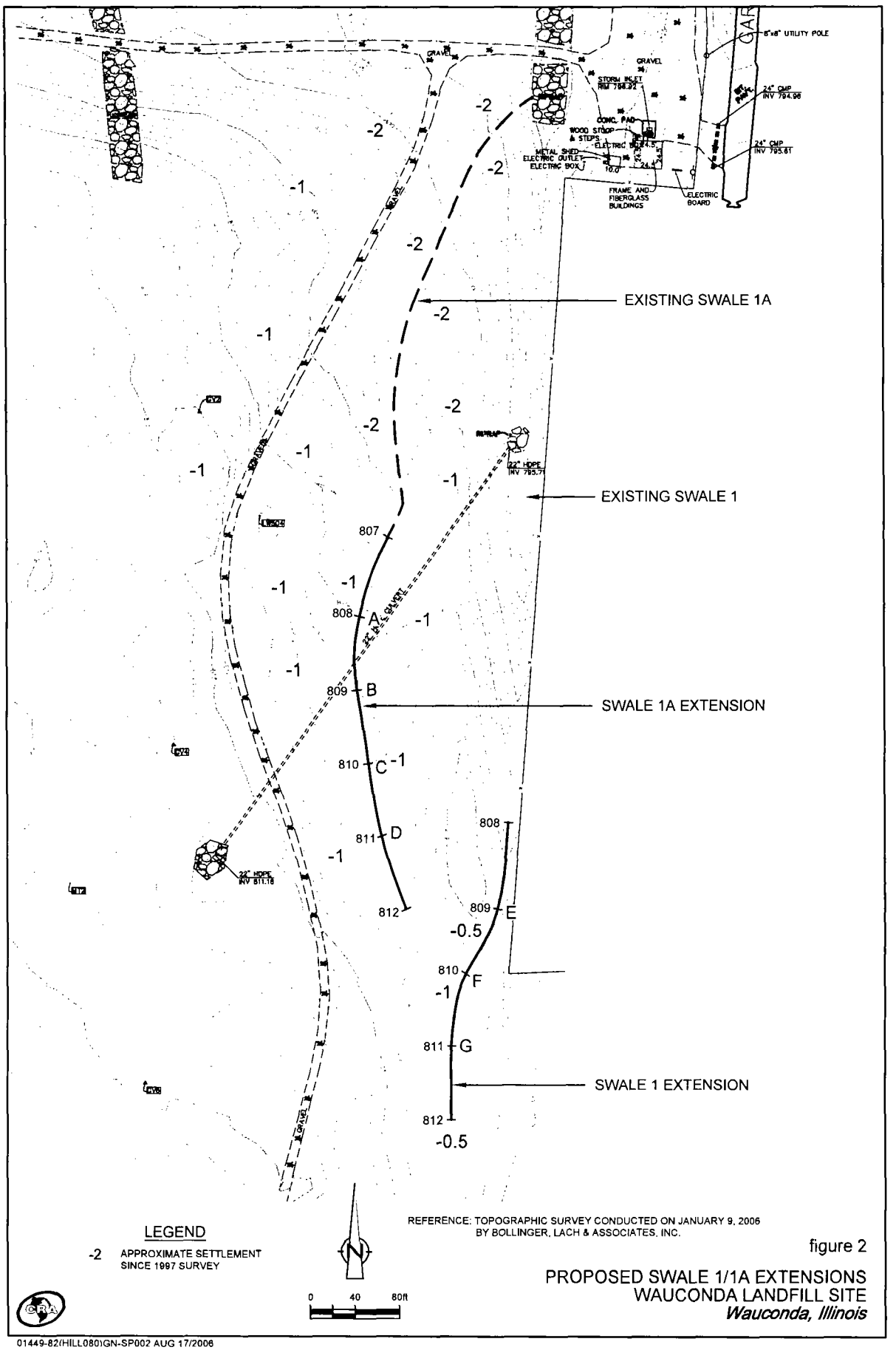
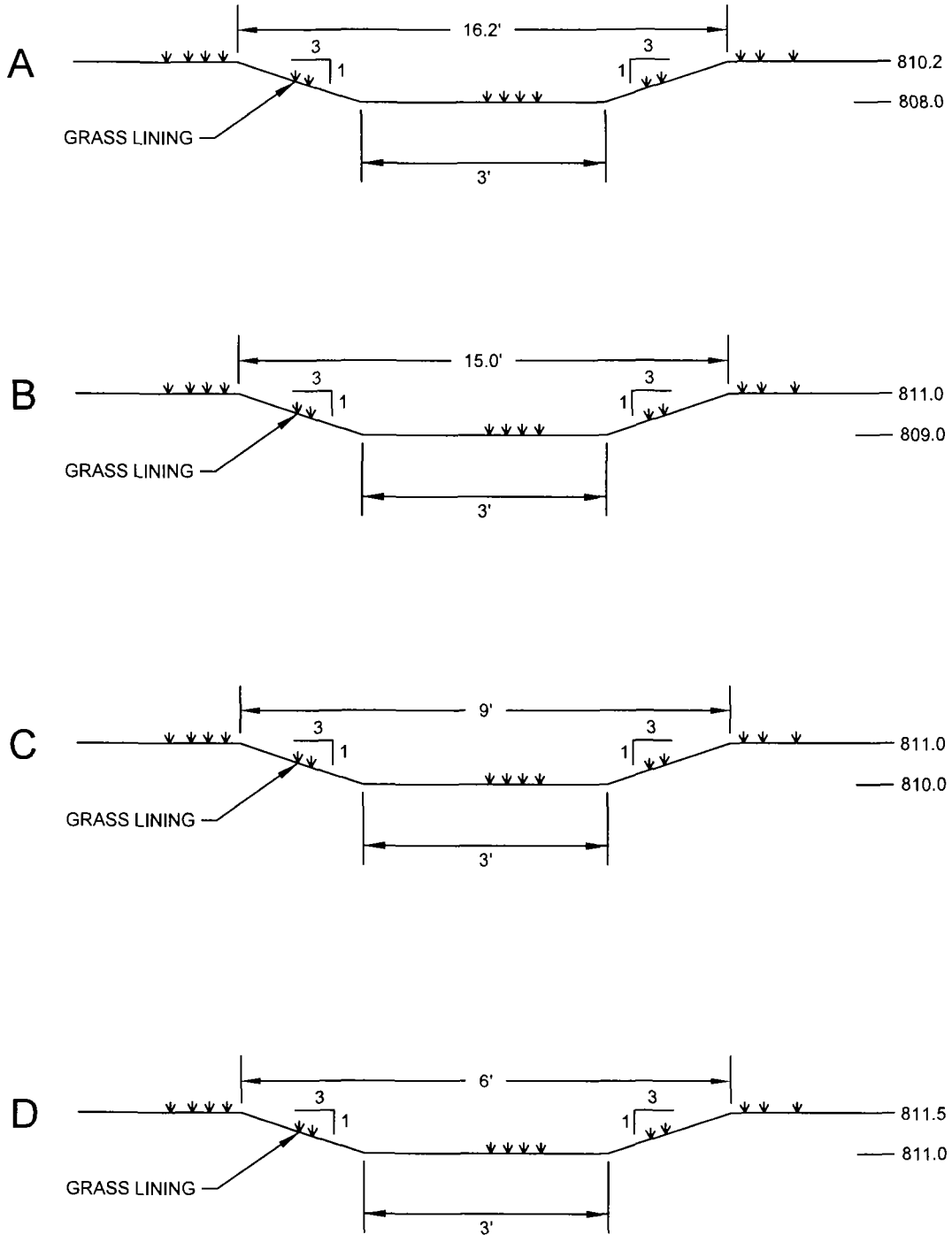


figure 2

PROPOSED SWALE 1/1A EXTENSIONS
WAUCONDA LANDFILL SITE
Wauconda, Illinois

01449-82(HILL0801)GN-SP002 AUG 17/2006

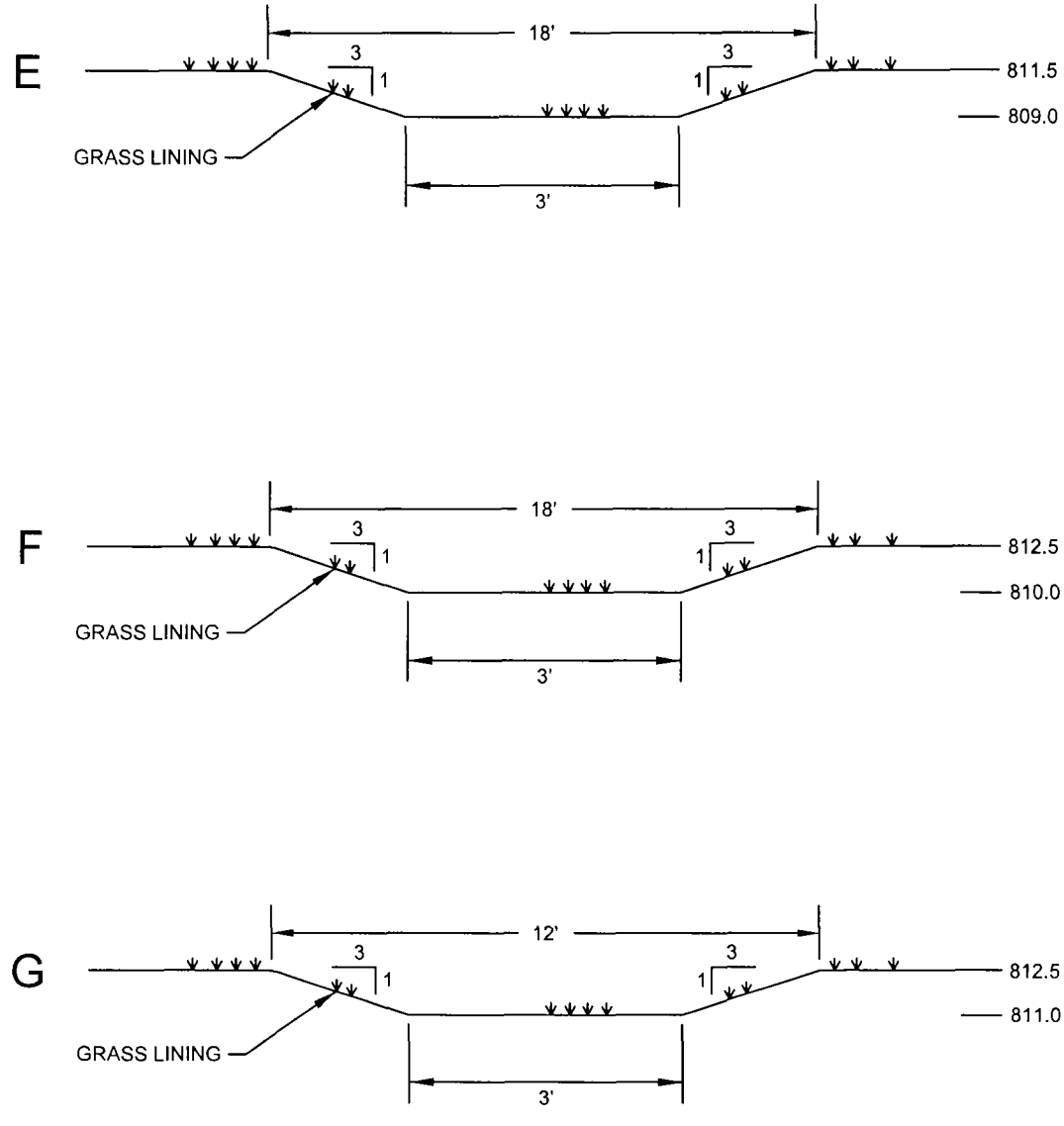


NOT TO SCALE

figure 3

SWALE 1A EXTENSION CROSS SECTIONS
WAUCONDA LANDFILL SITE
Wauconda, Illinois

01449-82(HILL080)GN-SP003 AUG 17/2006

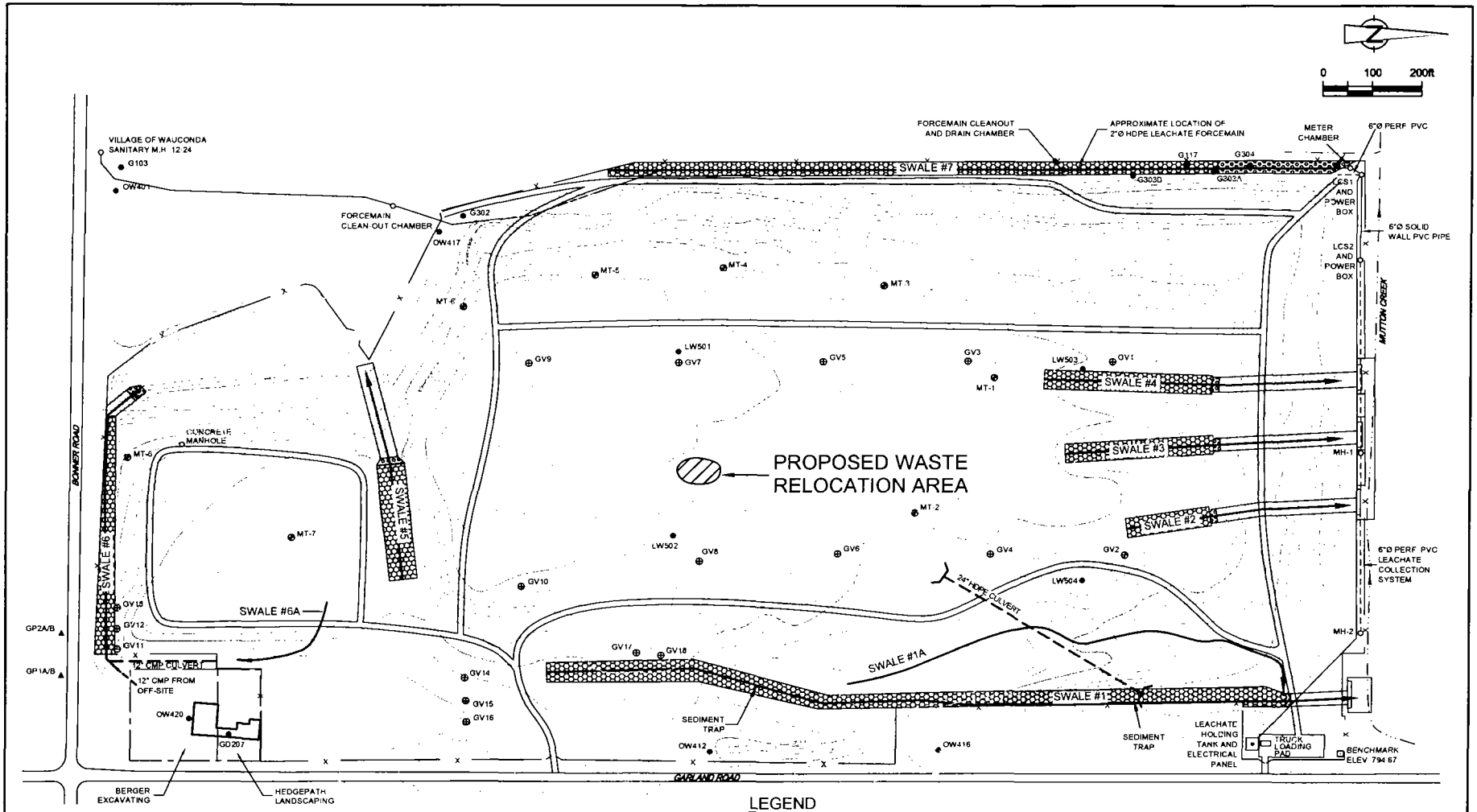


NOT TO SCALE

figure 4

SWALE 1 EXTENSION CROSS SECTIONS
WAUCONDA LANDFILL SITE
Wauconda, Illinois

01449-82(HILL080)GN-SP004 AUG 17/2006



LEGEND

- WELL LOCATION
- GAS VENT LOCATION
- NESTED GAS PROBE LOCATION
- MONUMENT LOCATION
- ENKAMAT LINED CHANNEL
- RIPRAP
- GABION LINED CHANNEL
- APPROXIMATE LOCATION OF SERVICE DRIVES

SOURCE: TOPOGRAPHY BASED ON COMBINATION OF VARIOUS SURVEYS CONDUCTED SINCE 1992.

figure 5

PROPOSED WASTE RELOCATION AREA
WAUCONDA LANDFILL SITE
Wauconda, Illinois

CRA

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